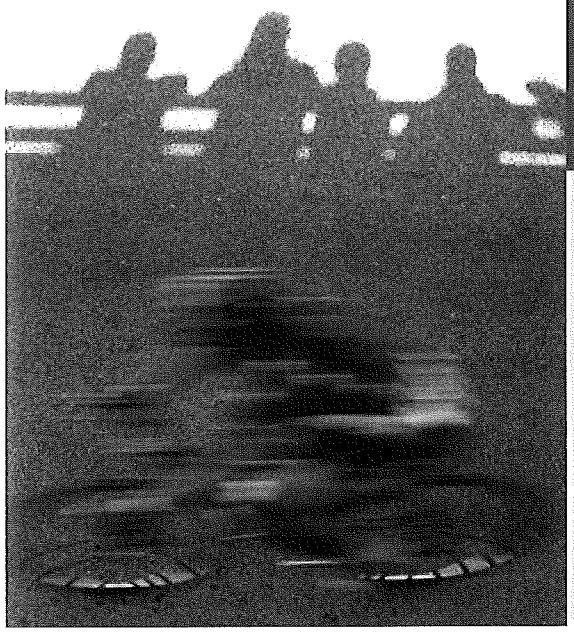


Chapter 5

Basics of Analysis

The analysis of financial data employs various techniques to emphasize the comparative and relative importance of the data presented and to evaluate the position of the firm. These techniques include ratio analysis, common-size analysis, study of differences in components of financial statements among industries, review of descriptive material, and comparisons of results with other types of data. The information derived from these types of analysis should be blended to determine the overall financial position. No one type of analysis supports overall findings or serves all types of users. This chapter provides an introduction to different analyses and uses of financial information.

Financial statement analysis is a judgmental process. One of the primary objectives is identification of major changes (turning points) in trends, amounts, and relationships and investigation of the reasons underlying those changes. Often, a turning point may signal an early warning of a significant shift in the future success or failure of the business. The judgment process can be improved by experience and by use of analytical tools.

Ratio Analysis

Financial ratios are usually expressed as a percent or as times per period. The following ratios will be discussed fully in future chapters.

1. Liquidity ratios measure a firm's ability to meet its current obligations. They may include ratios that measure the efficiency of the use of current assets and current liabilities (Chapter 6).
2. Borrowing capacity (leverage) ratios measure the degree of protection of suppliers of long-term funds (Chapter 7).
3. Profitability ratios measure the earning ability of a firm. Discussion will include measures of the use of assets in general (Chapter 8).
4. Investors are interested in a special group of ratios, in addition to liquidity, debt, and profitability ratios (Chapter 9).
5. Cash flow ratios can indicate liquidity, borrowing capacity, or profitability (Chapter 10).

A ratio can be computed from any pair of numbers. Given the large quantity of variables included in financial statements, a very long list of meaningful ratios can be derived. A standard list of ratios or standard computation of them does not exist. Each author and source on financial analysis uses a different list and often a different computation of the same ratio. This book presents frequently utilized and discussed ratios.

Ratios are interpretable in comparison with (1) prior ratios, (2) ratios of competitors, (3) industry ratios, and (4) predetermined standards. The trend of a ratio and the variability of a ratio are important considerations.

Comparison of income statement and balance sheet numbers, in the form of ratios, can create difficulties due to the timing of the financial statements. Specifically, the income statement covers the entire fiscal period; whereas the balance sheet applies to a single point in time, the end of the period. Ideally, then, to compare an income statement figure such as sales to a balance sheet figure such as receivables, we need to know the average receivables for the year that the sales figure covers. However, these data are not available to the external analyst. In some cases, the analyst uses an average of the beginning and ending balance sheet figures. This approach smooths out changes from beginning to end, but it does not eliminate problems due to seasonal and cyclical changes. It also does not reflect changes that occur unevenly throughout the year.

Be aware that computing averages from two similar balance sheet dates can be misleading. It is possible that a representative average cannot be computed from externally published statements.

A ratio will usually represent a fairly accurate trend, even when the ratio is distorted. If the ratio is distorted, then it does not represent a good absolute number.

Applying the U.S. techniques of ratio analysis to statements prepared in other countries can be misleading. The ratio analysis must be understood in terms of the accounting principles used and the business practices and culture of the country.

Common-Size Analysis (Vertical and Horizontal)

Common-size analysis expresses comparisons in percentages. For example, if cash is $40,000 and total assets is $1 million, then cash represents 4% of total assets. The use of percentages is usually preferable to the use of absolute amounts. An illustration will make this clear. If Firm A earns $10,000 and Firm B earns $1,000, which is more profitable? Firm A is probably your response. However, the total owners' equity of A is $1 million, and B's is $10,000. The return on owners' equity is as follows:

	Firm A	Firm B
$\frac{\text{Earnings}}{\text{Owners' Equity}}$	$\frac{\$10{,}000}{\$1{,}000{,}000} = 1\%$	$\frac{\$1{,}000}{\$10{,}000} = 10\%$

The use of common-size analysis makes comparisons of firms of different sizes much more meaningful. Care must be exercised in the use of common-size analysis with small absolute amounts because a small change in amount can result in a very substantial percentage change. For example, if profits last year amounted to $100 and increased this year to $500, this would be an increase of only $400 in profits, but it would represent a substantial percentage increase.

Vertical analysis compares each amount with a base amount selected from the same year. For example, if advertising expenses were $1,000 in 2011 and sales were $100,000, the advertising would have been 1% of sales.

Horizontal analysis compares each amount with a base amount for a selected base year. For example, if sales were $400,000 in 2010 and $600,000 in 2011, then sales increased to 150% of the 2010 level in 2011, an increase of 50%.

Exhibit 5-1 illustrates common-size analysis (vertical and horizontal).

EXHIBIT 5-1 Melcher Company

Income Statement

Illustration of Common-Size Analysis (Vertical and Horizontal)

	For the Years Ended December 31,		
(Absolute dollars)	2011	2010	2009
Revenue from sales	$100,000	$95,000	$91,000
Cost of products sold	65,000	60,800	56,420
Gross profit	35,000	34,200	34,580
Operating expenses			
Selling expenses	14,000	11,400	10,000
General expenses	16,000	15,200	13,650
Total operating expenses	30,000	26,600	23,650
Operating income before income taxes	5,000	7,600	10,930
Taxes related to operations	1,500	2,280	3,279
Net income	$ 3,500	$ 5,320	$ 7,651
Vertical Common Size			
Revenue from sales	100.0%	100.0%	100.0%
Cost of goods sold	65.0	64.0	62.0
Gross profit	35.0	36.0	38.0
Operating expenses			
Selling expenses	14.0	12.0	11.0
General expenses	16.0	16.0	15.0
Total operating expenses	30.0	28.0	26.0
Operating income before income taxes	5.0	8.0	12.0
Taxes related to operations	1.5	2.4	3.6
Net income	3.5%	5.6%	8.4%
Horizontal Common Size			
Revenue from sales	109.9%	104.4%	100.0%
Cost of goods sold	115.2	107.8	100.0
Gross profit	101.2	98.9	100.0
Operating expenses			
Selling expenses	140.0	114.0	100.0
General expenses	117.2	111.4	100.0
Total operating expenses	126.8	112.5	100.0
Operating income before income taxes	45.7	69.5	100.0
Taxes related to operations	45.7	69.5	100.0
Net income	45.7	69.5	100.0

Year-to-Year Change Analysis

Comparing financial statements over two time periods using absolute amounts and percentages can be meaningful. This approach aids in keeping absolute and percentage changes in perspective. For example, a substantial percentage change may not be relevant because of an immaterial absolute change. When performing year-to-year change analysis, follow these rules:

1. When an item has value in the base year and none in the next period, the decrease is 100%.
2. A meaningful percent change cannot be computed when one number is positive and the other number is negative.
3. No percent change is computable when there is no figure for the base year.

These rules are illustrated in Exhibit 5-2.

EXHIBIT 5-2 Year-To-Year Change Analysis

Illustrating Rules

Item	Year 1	Year 2	Change Analysis Amount	Change Analysis Percent
Advertising expense	$20,000	$ —	$(20,000)	(100%)
Operating income	6,000	(3,000)	(9,000)	—
Net income	(7,000)	8,000	15,000	—
Other	—	4,000	4,000	—

Financial Statement Variation by Type of Industry

The components of financial statements, especially the balance sheet and the income statement, will vary by type of industry. Exhibits 5-3, 5-4, and 5-5 illustrate, respectively, a merchandising firm (Best Buy Co., Inc.), a service firm (Kelly Services, Inc., and Subsidiaries), and a manufacturing firm (Cooper Tire & Rubber Company).

EXHIBIT 5-3 Best Buy Co., Inc.*

Merchandising Firm

Consolidated Balance Sheets
$ in millions, except per share and share amounts

	February 26, 2011	February 27, 2010
ASSETS		
Current Assets		
Cash and cash equivalents	$ 1,103	$ 1,826
Short-term investments	22	90
Receivables	2,348	2,020
Merchandise inventories	5,897	5,486
Other current assets	1,103	1,144
Total current assets	10,473	10,566
Property and Equipment		
Land and buildings	766	757
Leasehold improvements	2,318	2,154
Fixtures and equipment	4,701	4,447
Property under capital lease	120	95
	7,905	7,453
Less accumulated depreciation	4,082	3,383
Net property and equipment	3,823	4,070
Goodwill	2,454	2,452
Tradenames, Net	133	159
Customer Relationships, Net	203	279
Equity and Other Investments	328	324
Other Assets	435	452
Total Assets	$17,849	$18,302
LIABILITIES AND EQUITY		
Current Liabilities		
Accounts payable	$ 4,894	$ 5,276

* "We are a multinational retailer of consumer electronics, home office products, entertainment products, appliances and related services." 10-K

Source: Best Buy Co., Inc. 2010 10-K

EXHIBIT 5-3 Best Buy Co., Inc. (*continued*)

	February 26, 2011	February 27, 2010
Unredeemed gift card liabilities	474	463
Accrued compensation and related expenses	570	544
Accrued liabilities	1,471	1,681
Accrued income taxes	256	316
Short-term debt	557	663
Current portion of long-term debt	441	35
Total current liabilities	8,663	8,978
Long-Term Liabilities	1,183	1,256
Long-Term Debt	711	1,104
Equity		
Best Buy Co., Inc. Shareholders' Equity		
Preferred stock, $1.00 par value: Authorized— 400,000 shares; Issued and outstanding—none	—	—
Common stock, $0.10 par value: Authorized— 1.0 billion shares; Issued and outstanding— 392,590,000 and 418,815,000 shares, respectively	39	42
Additional paid-in capital	18	441
Retained earnings	6,372	5,797
Accumulated other comprehensive income	173	40
Total Best Buy Co., Inc. shareholders' equity	6,602	6,320
Noncontrolling interests	690	644
Total equity	7,292	6,964
Total Liabilities and Equity	$17,849	$18,302

Consolidated Statements of Earnings
$ in millions, except per share amounts

Fiscal Years Ended	February 26, 2011	February 27, 2010	February 28, 2009
Revenue	$50,272	$49,694	$45,015
Cost of goods sold	37,611	37,534	34,017
Restructuring charges – cost of goods sold	24	—	—
Gross profit	12,637	12,160	10,998
Selling, general and administrative expenses	10,325	9,873	8,984
Restructuring charges	198	52	78
Goodwill and tradename impairment	—	—	66
Operating income	2,114	2,235	1,870
Other income (expense)			
Investment income and other	51	54	35
Investment impairment	—	—	(111)
Interest expense	(87)	(94)	(94)
Earnings before income tax expense and equity in income of affiliates	2,078	2,195	1,700
Income tax expense	714	802	674
Equity in income of affiliates	2	1	7
Net earnings including noncontrolling interests	1,366	$ 1,394	$ 1,033
Net earnings attributable to noncontrolling interests	(89)	(77)	(30)
Net earnings attributable to Best Buy Co., Inc.	$ 1,277	$ 1,317	$ 1,003
Earnings per share attributable to Best Buy Co., Inc.			
Basic	$ 3.14	$ 3.16	$ 2.43
Diluted	$ 3.08	$ 3.10	$ 2.39
Weighted-average common shares outstanding (in millions)			
Basic	406.1	416.8	412.5
Diluted	416.5	427.5	422.9

EXHIBIT 5-4 Kelly Services, Inc. and Subsidiaries*

Service Firm

CONSOLIDATED BALANCE SHEETS
Kelly Services, Inc. and Subsidiaries

	2010	2009
	(In millions of dollars)	
ASSETS		
Current Assets		
Cash and equivalents	$ 80.5	$ 88.9
Trade accounts receivable, less allowances of $12.3 million and $15.0 million, respectively	810.9	717.9
Prepaid expenses and other current assets	44.8	70.6
Deferred taxes	22.4	21.0
Total current assets	958.6	898.4
Property and Equipment		
Land and buildings	59.0	58.8
Computer hardware, software and other	260.3	264.0
Accumulated depreciation	(215.3)	(195.7)
Net property and equipment	104.0	127.1
Noncurrent Deferred Taxes	84.0	77.5
Goodwill, net	67.3	67.3
Other Assets	154.5	142.2
Total Assets	$1,368.4	$1,312.5
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Short-term borrowings and current portion of long-term debt	$78.8	$79.6
Accounts payable and accrued liabilities	181.6	182.6
Accrued payroll and related taxes	243.3	208.3
Accrued insurance	31.3	22.9
Income and other taxes	56.0	47.4
Total current liabilities	591.0	540.8
Noncurrent Liabilities		
Long-term debt	—	57.5
Accrued insurance	53.6	54.9
Accrued retirement benefits	85.4	76.9
Other long-term liabilities	14.6	16.0
Total noncurrent liabilities	153.6	205.3
Stockholders' Equity		
Capital stock, $1.00 par value		
Class A common stock, shares issued 36.6 million at 2010 and 2009	36.6	36.6
Class B common stock, shares issued 3.5 million at 2010 and 2009	3.5	3.5
Treasury stock, at cost		
Class A common stock, 3.4 million shares at 2010 and 5.1 million at 2009	(70.3)	(106.6)
Class B common stock	(0.6)	(0.6)
Paid-in capital	28.0	36.9
Earnings invested in the business	597.6	571.5
Accumulated other comprehensive income	29.0	25.1
Total stockholders' equity	623.8	566.4
Total Liabilities and Stockholders' Equity	$1,368.4	$1,312.5

*"We have evolved from a United States-based company concentrating primarily on traditional office staffing into a global workforce solutions leader with a breadth of specialty businesses." 10-K

Source: Kelly Services, Inc. and Subsidiaries 2010 10-K

EXHIBIT 5-4 Kelly Services, Inc. and Subsidiaries (*continued*)

CONSOLIDATED STATEMENTS OF EARNINGS
Kelly Services, Inc. and Subsidiaries

	2010	2009[1]	2008
	(In millions of dollars except per share items)		
Revenue from services	$4,950.3	$4,314.8	$5,517.3
Cost of services	4,155.8	3,613.1	4,539.7
Gross profit	794.5	701.7	977.6
Selling, general and administrative expenses	754.4	794.7	967.4
Asset impairments	2.0	53.1	80.5
Earnings (loss) from operations	38.1	(146.1)	(70.3)
Other expense, net	(5.4)	(2.2)	(3.4)
Earnings (loss) from continuing operations before taxes	32.7	(148.3)	(73.7)
Income taxes	6.6	(43.2)	8.0
Earnings (loss) from continuing operations	26.1	(105.1)	(81.7)
Earnings (loss) from discontinued operations, net of tax	—	0.6	(0.5)
Net earnings (loss)	$ 26.1	$ (104.5)	$ (82.2)
Basic earnings (loss) per share			
Earnings (loss) from continuing operations	$ 0.71	$ (3.01)	$ (2.35)
Earnings (loss) from discontinued operations	—	0.02	(0.02)
Net earnings (loss)	$ 0.71	$ (3.00)	$ (2.37)
Diluted (loss) earnings per share			
Earnings (loss) from continuing operations	$ 0.71	$ (3.01)	$ (2.35)
Earnings (loss) from discontinued operations	—	0.02	(0.02)
Net (loss) earnings	$ 0.71	$ (3.00)	$ (2.37)
Dividends per share	$ —	$ —	$ 0.54
Average shares outstanding (millions):			
Basic	36.1	34.9	34.8
Diluted	36.1	34.9	34.8

[1]Fiscal year includes 53 weeks.

Merchandising (retail-wholesale) firms sell products purchased from other firms. A principal asset is inventory, which consists of merchandise inventories. For some merchandising firms, a large amount of sales may be for cash. In such cases, the receivables balance will be relatively low. Other merchandising firms have a large amount of sales charged but also accept credit cards such as VISA, so they also have a relatively low balance in receivables. Other firms extend credit and carry the accounts receivable and thus have a relatively large receivables balance. Because of the competitive nature of the industry, profit ratios on the income statement are often quite low, with the cost of sales and operating expenses constituting a large portion of expenses. Refer to Exhibit 5-3, Best Buy Co., Inc.

A service firm generates its revenue from the service provided. Because service cannot typically be stored, inventory is low or nonexistent. In people-intensive services, such as advertising, investment in property and equipment is also low compared with that of manufacturing firms. Refer to Exhibit 5-4, Kelly Services, Inc., and Subsidiaries.

A manufacturing firm will usually have large inventories composed of raw materials, work in process, and finished goods, as well as a material investment in property, plant, and equipment. Notes and accounts receivable may also be material, depending on the terms of sale. The cost of sales often represents the major expense. Refer to Exhibit 5-5, Cooper Tire & Rubber Company.

EXHIBIT 5-5 Cooper Tire & Rubber Company*

Manufacturing Firm

CONSOLIDATED BALANCE SHEETS
December 31
(Dollar amounts in thousands)

	2009	2010
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 426,981	$ 413,359
Notes receivable	42,599	69,547
Accounts receivable, less allowances of $10,928 in 2009 and $10,811 in 2010	324,424	414,149
Inventories at lower of cost or market:		
Finished goods	188,323	240,107
Work in progress	22,090	26,735
Raw materials and supplies	88,022	119,985
	298,435	386,827
Other current assets	39,392	56,357
Total current assets	1,131,831	1,340,239
Property, plant and equipment:		
Land and land improvements	33,321	34,355
Buildings	320,021	320,997
Machinery and equipment	1,587,306	1,636,700
Molds, cores and rings	246,395	232,153
	2,187,043	2,224,205
Less accumulated depreciation and amortization	1,336,073	1,371,763
Net property, plant and equipment	850,971	852,442
Intangibles, net of accumulated amortization of $23,165 in 2009 and $24,455 in 2010	18,546	17,256
Restricted cash	2,219	2,274
Other assets	96,773	93,326
Total assets[1]	$2,100,340	$2,305,537

[1]Assets of consolidated variable interest entities (VIEs) were $204,995 and $204,535 at December 31, 2009 and December 31, 2010, respectively. The assets (principally Property, plant and equipment) of the VIEs can only be used to settle obligations of those VIEs.

	2009	2010
LIABILITIES AND EQUITY		
Current Liabilities:		
Notes payable	$ 156,719	$ 146,947
Accounts payable	300,448	384,464
Accrued liabilities	158,643	152,364
Income taxes	3,955	4,601
Liabilities related to the sale of automotive operations	1,061	—
Current portion of long-term debt	15,515	5,885
Total current liabilities	636,341	694,261
Long-term debt	330,971	320,724
Postretirement benefits other than pensions	244,905	257,657
Pension benefits	272,050	258,321
Other long-term liabilities	145,978	180,082
Long-term liabilities related to the sale of automotive operations	6,043	—
Redeemable noncontrolling shareholders' interests	83,528	71,442
Equity:		
Preferred stock, $1 par value; 5,000,000 shares authorized; none issued	—	—

*"Cooper Tire & Rubber Company with its affiliates and subsidiaries ("Cooper" or the "Company") is a leading manufacturer and marketer of replacement tires." 10-K
Source: Cooper Tire & Rubber Company 2010 10-K

EXHIBIT 5-5 Cooper Tire & Rubber Company (*continued*)

	2009	2010
Common stock, $1 par value; 300,000,000 shares authorized; 87,850,292 shares issued in 2009 and 2010	87,850	87,850
Capital in excess of par value	70,645	61,444
Retained earnings	1,133,133	1,247,265
Cumulative other comprehensive loss	(470,272)	(468,063)
	821,356	928,496
Less: common shares in treasury at cost (27,327,646 in 2009 and 26,205,336 in 2010)	(490,548)	(467,707)
Total parent stockholders' equity	330,808	460,789
Noncontrolling shareholders' interests in consolidated subsidiaries	49,716	62,261
Total equity	380,524	523,050
Total liabilities and equity[1]	$2,100,340	2,305,537

[1]Liabilities (principally notes payable) of consolidated VIEs were $105,806 and $80,414 at December 31, 2009 and December 31, 2010, respectively, and represent claims against the specific assets of the VIEs.

CONSOLIDATED STATEMENTS OF OPERATIONS
Years ended December 31
(Dollar amounts in thousands except per share amounts)

	2008	2009	2010
Net sales	$2,881,811	$2,778,990	$3,360,984
Cost of products sold	2,805,638	2,359,963	2,940,283
Gross profit	76,173	419,027	420,701
Selling, general and administrative	185,064	206,990	211,678
Impairment of goodwill and indefinite-lived intangible asset	31,340	—	—
Restructuring	76,402	48,718	20,649
Settlement of retiree medical case	—	7,050	—
Operating profit (loss)	(216,633)	156,269	188,374
Interest expense	50,525	47,211	36,647
Interest income	(12,887)	(5,193)	(5,265)
Other – net	3,504	(1,272)	(2,834)
Income (loss) from continuing operations before income taxes	(257,775)	115,523	159,826
Provision (benefit) for income taxes	(30,274)	231	20,057
Income (loss) from continuing operations	(227,501)	115,292	139,769
Income (loss) from discontinued operations, net of income taxes	64	(31,653)	24,118
Net income (loss)	(227,437)	83,639	(163,887)
Net income (loss) attributable to noncontrolling shareholders' interests	(8,057)	31,872	23,438
Net income (loss) attributable to Cooper Tire & Rubber Company	$ (219,380)	$ 51,767	$ 140,449
Basic earnings (loss) per share:			
Income (loss) from continuing operations available to Cooper Tire & Rubber Company common stockholders	$ (3.88)	$ 1.57	$ (1.90)
Income (loss) from discontinued operations	—	(0.53)	0.39

(*continued*)

EXHIBIT 5-5 Cooper Tire & Rubber Company (*continued*)

	2008	2009	2010
Net income (loss) available to Cooper Tire & Rubber Company common stockholders	$ (3.88)	$ 1.04	$ 2.29
Diluted earnings (loss) per share:			
Income (loss) from continuing operations available to Cooper Tire & Rubber Company common stockholders	$ (3.88)	$ 1.54	$ 1.86
Income (loss) from discontinued operations	—	(0.52)	0.38
Net income (loss) available to Cooper Tire & Rubber Company common stockholders	$ (3.88)	$ 1.02	$ 2.24

Review of Descriptive Information

The descriptive information found in an annual report, in trade periodicals, and in industry reviews helps us understand the financial position of a firm. Descriptive material might discuss the role of research and development in producing future sales, present data on capital expansion and the goals related thereto, discuss aspects of employee relations such as minority hiring or union negotiations, or help explain the dividend policy of the firm. In its annual report, a company must present a section called Management Discussion and Analysis (MD&A). This section provides an overview of the previous year and of future goals and new projects. Although the MD&A is unaudited, the information it contains can be very useful.

Comparisons

Absolute figures or ratios appear meaningless unless compared to other figures or ratios. If a person were asked if $10 is a lot of money, the frame of reference would determine the answer. To a small child, still in awe of a quarter, $10 is a lot. To a millionaire, a $10 bill is nothing. Similarly, having 60% of total assets composed of buildings and equipment would be normal for some firms but disastrous for others. One must have a guide to determine the meaning of the ratios and other measures. Several types of comparisons offer insight.

Trend Analysis

Trend analysis studies the financial history of a firm for comparison. By looking at the trend of a particular ratio, one sees whether that ratio is falling, rising, or remaining relatively constant. This helps detect problems or observe good management.

Standard Industrial Classification (SIC) Manual

The Standard Industrial Classification is a statistical classification of business by industry. The National Technical Information Service publishes the classification manual. The manual is the responsibility of the Office of Management and Budget, which is under the executive office of the president.

Use of the SIC promotes comparability of various facets of the U.S. economy and defines industries in accordance with the composition and structure of the economy. An organization's SIC consists of a two-digit major group number, a three-digit industry group number, and a four-digit industry number. These numbers describe the business's identifiable level of industrial detail.

Determining a company's SIC is a good starting point in researching a company, an industry, or a product. Many library sources use the SIC number as a method of classification.

The U.S. Department of Labor provides a Web site that details the SIC manual and provides for searching via key words. The Web site is http://www.osha.gov/oshstats/sicser.html. If you Google "Standard Industrial Classification" (SIC), this Web site will likely be the first one up.

North American Industry Classification System (NAICS)

The North American Industry Classification System (NAICS) was created jointly by the United States, Canada, and Mexico. It is to replace the existing classification of each country: the Standard Industrial Classification of Canada (1980), the Mexican Classification of Activities and Products (1994), and the Standard Industrial Classification (SIC) of the United States (1987).

For the NAICS, economic units with similar production processes are classified in the same industry, and the lines drawn between industries demarcate differences in production processes. This supply-based economic concept was adopted because an industry classification system is a framework for collecting information on both inputs and outputs. This will aid in the collection of statistics on such things as productivity, unit labor costs, and capital intensity.

NAICS provides enhanced industry comparability among the three NAFTA trading partners. It also increases compatibility with the two-digit level of the International Standard Industrial Classification (ISIC Rev. 3) of the United Nations.

NAICS divides the economy into 20 sectors. Industries within these sectors are grouped according to the production criterion. Four sectors are largely goods-producing, and 16 are entirely services-producing industries.

In most sectors, NAICS provides for compatibility at the industry (five-digit) level. For some sectors, the compatibility level is less at four-digit, three-digit, or two-digit levels. Each country can add additional detailed industries, provided the additional detail aggregates to the NAICS level.

The United States adopted the NAICS in 1997 for statistical agencies. Most of the U.S. government agencies now use the NAICS in place of the Standard Industrial Classification. A major exception is the Securities and Exchange Commission (SEC). Companies reporting to the SEC include their SIC. For private companies that publish industry data, some now only use the NAICS, others use the SIC, and still others include both the NAICS and the SIC.

The U.S. Census Bureau provides a Web site that details the NAICS manual and provides for searching via key words. To get to this site, open www.census.gov and under "business and industry" click on NAICS. If you Google "North American Industry Classification System" (NAICS), this Web site will likely be the first one up.

Industry Averages and Comparison with Competitors

The analysis of an entity's financial statements is more meaningful if the results are compared with industry averages and with results of competitors. Several financial services provide composite data on various industries.

The analyst faces a problem when the industries reported do not clearly include the company being examined because the company is diversified into many industrial areas. Since many companies do not clearly fit into any one industry, it is often necessary to use an industry that best fits the firm. The financial services have a similar problem in selecting an industry in which to place a company. Thus, a financial service uses its best judgment as to which industry the firm best fits.

This section briefly describes some financial services. For a more extensive explanation, consult the service's literature. Each service explains how it computes its ratios and the data it provides.

The Department of Commerce Financial Report is a publication of the federal government for manufacturing, mining, and trade corporations. Published by the Economic Surveys Division of the Bureau of the Census, it includes income statement data and balance sheet data in total industry dollars. It also includes an industry-wide common-size vertical income statement (Income Statement in Ratio Format) and an industry-wide common-size vertical

balance sheet (Selected Balance Sheet Ratios). This source also includes selected operating and balance sheet ratios. This government publication uses NAICS for classification.

This report, updated quarterly, probably offers the most current source. It typically becomes available within three to four months after the end of the quarter. It is a unique source of industry data in total dollars and would enable a company to compare its dollars (such as sales) with the industry dollars (sales). This service is free and is now on the Internet at www.census.gov/econ/qfr.

Annual Statement Studies is published by the Risk Management Association, the association of lending and credit risk professionals. Submitted by institutional members of the Risk Management Association, the data cover several hundred different industries in manufacturing, wholesaling, retailing, service, agriculture, and construction.

Annual Statement Studies groups the data by industry, using the SIC number, and the NAICS number. It provides common-size balance sheets, income statements, and 16 selected ratios.

The data are sorted by assets and sales and are particularly useful because the financial position and operations of small firms are often quite different from those of larger firms. The presentation also includes a five-year comparison of historical data that presents all firms under a particular NAICS or SIC code.

In each category, the ratios are computed for the median and the upper and lower quartiles. For example:

Number of firms (9)

Ratio—Return on total assets

Results for the nine firms (in order, from highest to lowest):

12%, 11%, 10.5%, 10%, 9.8%, 9.7%, 9.6%, 7.0%, 6.5%

The middle result is the median: 9.8%.

The result halfway between the top result and the median is the upper quartile: 10.5%.

The result halfway between the bottom result and the median is the lower quartile: 9.6%.

For ratios in which a low value is desirable, the results are presented from low values to high—for example, 2% (upper quartile), 5% (median), and 8% (lower quartile). For ratios in which a high value is desirable, the results are presented from high values to low—for example, 10.5% (upper quartile), 9.8% (median), and 9.6% (lower quartile).

Because of the combination of common-size statements, selected ratios, and comparative historical data, *Annual Statement Studies* is one of the most extensively used sources of industry data. Commercial loan officers in banks frequently use this source.

Annual Statement Studies® now contains an industry Z score which indicates the potential for a company to fail compared with the industry. A review of the Z score concept is in Chapter 11 of this text.

Annual Statement Studies® is available in two books; 1) RMA Annual Statement Studies®, and 2) Valu Source's RMA Annual Statement Studies® Valuation Edition.

Valu Source's RMA Annual Statement Studies® Valuation Edition has the same data contained in RMA Annual Statement Studies® plus additional data such as enhanced financial ratios.

Standard & Poor's Industry Surveys contains information of particular interest to investors. This includes a write-up by industry, statistics for companies in an industry, and specific company by industry. Each industry report includes the current environments, industry trends, key industry ratios, and additional industry information.

Almanac of Business and Industrial Financial Ratios, published by CCH Incorporated, is a compilation of corporate tax return data. It includes nearly 200 industries and presents 50 statistics for 13 size categories of firms. Some of the industries include manufacturing, construction, transportation, retail trade, banking, and wholesale trade.

Beginning with the 2002 edition, each *Almanac* industry is cross-referenced to a NAICS number. The IRS's condensed NAICS represents the classification system used in the *Almanac.*

Industry Norms and Key Business Ratios, desktop edition published by Dun & Bradstreet, includes over 800 different lines of business as defined by the SIC code numbers. It

includes one-year data consisting of a condensed balance sheet and an income statement in dollars and common size. It also includes working capital and ratios.

There are 14 ratios presented for the upper quartile, median, and lower quartile. The 14 ratios are as follows:

Solvency
- Quick Ratio (Times)
- Current Ratio (Times)
- Current Liabilities to Net Worth (%)
- Current Liabilities to Inventory (%)
- Total Liabilities to Net Worth (%)
- Fixed Assets to Net Worth (%)

Efficiency
- Collection Period (days)
- Sales to Inventory (times)
- Assets to Sales (%)
- Sales to Net Working Capital (times)
- Accounts Payable to Sales (%)

Profitability
- Return on Sales (%)
- Return on Assets (%)
- Return on Equity (%)

Dun & Bradstreet advises that the industry norms and key business ratios are to be used as yardsticks and not as absolutes.

Value Line Investment Survey is in two editions; the Standard Edition and the Small & Mid-Cap Edition. The Standard Edition places companies in 1 of 97 industries. The Small & Mid-Cap Edition places companies in 1 of 84 industries. There are approximately 1,700 stocks in the Standard Edition and approximately 1,800 stocks in the Small & Mid-Cap Edition. The *Value Line Investment Survey* is very popular with investors.

The full-page Ratings & Reports are similar for the Standard Edition and the Small & Mid-Cap Edition. Each stock is rated for timeliness, safety, and technical. The Standard Edition includes an analyst's comments, while the Small & Mid-Cap Edition does not include an analyst's comments.

The data included in *Value Line* for a company are largely for a relatively long period of time (11 to 17 years). The data provided vary somewhat by industry. Some of the data provided for many companies are as follows:

1. Revenues per share
2. Cash flow per share
3. Earnings per share
4. Dividends declared per share
5. Capital spending per share
6. Book value per share
7. Common shares outstanding
8. Average annual P/E ratio
9. Relative P/E ratio
10. Average annual dividend yield
11. Revenues
12. Operating margin
13. Depreciation
14. Net profit

15. Income tax rate
16. Net profit margin
17. Working capital
18. Long-term debt
19. Shareholders' equity
20. Return on total capitalization
21. Return on shareholders' equity
22. Retained to common equity
23. All dividends to net profit

As indicated previously, comparison has become more difficult in recent years as more firms become conglomerates and diversify into many product lines. To counteract this problem, the SEC has implemented line-of-business reporting requirements for companies that must submit their reports to the SEC. These reports are made available to the public. SFAS No. 14 also addresses line-of-business reporting requirements. Such reporting requirements ease the analysis problem created by conglomerates but cannot eliminate it because the entity must decide how to allocate administrative and joint costs.

If industry figures are unavailable or if comparison with a competitor is desired, another firm's statements may be analyzed. Remember, however, that the other firm is not necessarily good or bad, nor does it represent a norm or standard for its industry. It also can be said that industry figures do not necessarily represent good or bad, nor do they represent a standard for its industry.

Alternative accounting methods are acceptable in many situations. Since identical companies may use different valuation or expense methods, it is important to read statements and notes carefully to determine whether the statements are reasonably comparable.

Ideally, the use of all types of comparison would be best. Using trend analysis, industry averages, and comparisons with a major competitor will give support to findings and will provide a concrete basis for analysis.

In analyzing ratios, the analyst will sometimes encounter negative profit figures. **Analysis of ratios that have negative numerators or denominators is meaningless, and the negative sign of the ratio should simply be noted.**

Caution in Using Industry Averages

Financial analysis requires judgment decisions on the part of the analyst. Users of financial statements must be careful not to place undue confidence in ratios or comparisons.

Remember that ratios are simply fractions with a numerator (top) and a denominator (bottom). There are as many ratios for financial analysis as there are pairs of figures. There is no set group, nor is a particular ratio always computed using the same figures. Even the industry ratio formulas vary from source to source. Adequate detailed disclosure of how the industry ratios are computed is often lacking. Major problems can result from analyzing a firm according to the recommendations of a book and then making comparisons to industry ratios that may have been computed differently.

The use of different accounting methods causes a problem. For example, identical firms may use different valuation or revenue recognition methods. Read statements and notes carefully to determine the degree of comparability between statements. Trend analysis for each firm, however, will usually be meaningful. Industry averages group firms together that use different accounting principles.

Different year-ends can also produce different results. Consider the difference in the inventory of two toy stores if one ends November 30 and the other ends December 31. The ratios of firms with differing year-ends are all grouped together in industry averages.

Firms with differing financial policies might be included in the same industry average. Possibly capital-intensive firms are grouped with labor-intensive companies. Firms with large amounts of debt may be included in the same average as firms that prefer to avoid the risk of debt.

Some industry averages come from small samples that may not be representative of the industry. An extreme statement, such as one containing a large loss, can also distort industry data.

Ratios may have alternative forms of computation. In comparing one year to the next, one firm to another, or a company to its industry, meaningful analysis requires that the ratios be computed using the same formula. For example, *Annual Statement Studies* computes income ratios before tax; Dun & Bradstreet profit figures are after tax. The analyst should compute the enterprise ratios on the same basis as is used for industry comparisons, but this is often not possible.

Finally, ratios are not absolute norms. They are general guidelines to be combined with other methods in formulating an evaluation of the financial condition of a firm. Despite the problems with using ratios, they can be very informative if reasonably used.

Relative Size of Firm

Comparisons of firms of different sizes may be more difficult than comparisons of firms of equal size. For example, larger firms often have access to wider and more sophisticated capital markets, can buy in large quantities, and service wider markets. Ratios and common-size analysis help to eliminate some of the problems related to the use of absolute numbers.

Be aware of the different sizes of firms under comparison. These differences can be seen by looking at relative sales, assets, or profit sizes. Investment services such as *Value Line* often make available another meaningful figure—percent of market.

Other Library Sources

The typical business library has many sources of information relating to a particular company, industry, and product. Some of these sources are described here to aid you in your search for information about a company, its industry, and its products.

Ward's Business Directory

Ward's Business Directory covers domestic private and public companies. Up to 20 items of information are provided for each company listed. The data may include names, addresses, telephone numbers, e-mails and URLs, sales, employee figures, and up to five names and titles of executive officers. The directory is a very good service for information on private companies. *Ward's Business Directory* went digital in 2007 under Gale Directory Library.

Standard & Poor's Stock Reports

Standard & Poor's Reports covers companies on the New York Stock Exchange, American Stock Exchange, NASDAQ stock market, and regional exchanges. Arranged alphabetically by stock exchange, it contains a brief narrative analysis of companies regularly traded. It provides key financial data relating to the income statement, balance sheet, and per share data. Other comments cover management, company's business, product lines, and other important factors.

Standard & Poor's Register of Corporations, Directors, and Executives

This annual source is arranged in two volumes. Volume 1 contains an alphabetical list of approximately 75,000 corporations, including such data as ZIP Codes, telephone numbers, and functions of officers, directors, and other principals. The NAICS code is included at the end of each listing.

Volume 2, Section 1 contains an alphabetical list of over 70,000 individuals serving as officers, directors, trustees, partners, and so on. It provides such data as principal business affiliations, business address, and residence address.

Volume 2, Section 2—Indices: Divided into seven subsections:

- *Section 1*—Explains the construction and use of the NAICS code numbers and lists these numbers by major groups and by alphabetical and numerical division of major groups.
- *Section 2*—Lists corporations under the six-digit NAICS codes, which are arranged in numerical order.
- *Section 3*—Lists companies geographically by states and by major cities.

- *Section 4*—Lists and cross-references subsidiaries, divisions, and affiliates in alphabetical sequence and links them to their ultimate parent company listed in Volume 1.
- *Section 5*—Lists the deaths of which publishers have been notified in the past year.
- *Section 6*—Lists individuals whose names appear in the Register for the first time.
- *Section 7*—Lists the companies appearing in the Register for the first time.

This source is published in hard copy and online.

Standard & Poor's Analyst's Handbook

This source contains selected income account and balance sheet items and related ratios as applied to the Standard & Poor's industry group stock price indexes. The progress of a given company may possibly be compared with a composite of its industry groups. Brief monthly updates for selected industries supplement the annual editions of the handbook.

Standard & Poor's Standard Corporation Descriptions, Plus News (Corporation Records)

This source provides background information and detailed financial statistics on U.S. corporations, with extensive coverage for some corporations. The contents and the index are updated throughout the year.

Standard & Poor's Security Owner's Stock Guide

This monthly guide, published by Standard & Poor's, covers over 5,300 common and preferred stocks. It contains trading activity, price range, dividends, and so on, for companies traded on the New York Stock Exchange, American Stock Exchange, over the counter, and regional exchanges. The information is displayed with numerous abbreviations and notes, in order to fit concisely into one single line, for each publicly traded security.

Standard & Poor's Statistical Service

Standard & Poor's Statistical Service includes comprehensive statistics on many industries such as agriculture, metals, building, and transportation. Many additional statistics are included such as price indexes and daily highs, lows, and closes for stock.

Standard & Poor's Net Advantage

Standard & Poor's Net Advantage is available at many academic libraries, public libraries, corporate libraries, and information centers. This source is online only. For Standard & Poor's publications listed in this book under "other library sources," they are all available in print copy. The following publications are also available with Net Advantage:

1. Standard & Poor's Stock Reports
2. Standard & Poor's Register of Corporations, Directors, and Executives
3. Standard & Poor's Standard Corporation Descriptions (Corporation Records)

Mergent Dividend Record and Standard & Poor's Annual Dividend Record

These dividend publications provide a dividend record of payments on virtually all publicly owned American and some foreign companies.

D&B® Million Dollar Directory®

This publication includes many items, including company name, address, telephone number, year founded, annual sales, stock exchange, ticker symbol, and company officers.

The Million Dollar Directory is published in five volumes. The first three contain alphabetical listings, while the fourth and fifth are cross-reference volumes grouped geographically by state and by Standard Industrial Classification (SIC).

The companies must meet at least one of two inclusion requirements:

1. $9 million or more in sales volume
2. 180 or more employees total if the company is a headquarters or single location, 900 or more employees at the location if the company is a branch

Directory of Corporate Affiliations™

This directory gives an in-depth view of companies and their divisions, subsidiaries, and affiliates. It contains an alphabetical index, geographical index, and SIC classifications. The parent company listing consists of address, telephone number, stock ticker symbol, stock exchange(s), approximate sales, number of employees, type of business, and top corporate officers. The database covers more than 180,000 parent companies, affiliates, subsidiaries, and divisions worldwide.

Thomas Register of American Manufacturers

This is a comprehensive reference for products and services (Volumes 1–14), company profiles (Volumes 15 & 16), and a catalog file.

Mergent Industrial Manual and News Reports

Published in two volumes, these manuals cover 2,000 industrial corporations listed on the New York and American stock exchanges and other selected exchanges. Extensive information is provided such as history, business, properties, subsidiaries, financial statements, and SIC codes.

D&B Reference Book of Corporate Managements

Contains profile information on over 200,000 principal corporate officers in over 12,000 companies. The information includes the year of birth, education, military service, present business position, and previous positions. Names and titles of other officers, as well as names of directors who are not officers, are also provided.

Compact Disclosure

This database of textual and financial information on approximately 12,000 public companies can be accessed by a menu-driven screen. The information is taken from annual and periodic reports filed by each company with the Securities and Exchange Commission. A full printout for a company is approximately 14 pages. It includes the major financial statements (annual and quarterly), many financial ratios for the prior three years, institutional holdings, ownership by insiders, president's letter, and financial notes.

A company can be accessed by keying its name or ticker symbol. In addition, the system can be searched by type of business (SIC), geographic area (state, city, ZIP Code, or telephone area code), stock price financial ratios, and much more. Available on CD-ROM database only.

Lexis-Nexis

This service provides accounting, legal, newspaper, and periodical information. Lexis-Nexis includes complete statement portions of annual reports for thousands of publicly traded companies. Many colleges of business, law schools, accounting firms, and law firms subscribe to this service.

The Users of Financial Statements

The financial statements are prepared for a group of diversified users. Users of financial data have their own objectives in analysis.

Management, an obvious user of financial data, must analyze the data from the viewpoints of both investors and creditors. Management must be concerned about the current position of the entity to meet its obligations, as well as the future earning prospects of the firm.

Management is interested in the financial structure of the entity in order to determine a proper mix of short-term debt, long-term debt, and equity from owners. Also of interest is the asset structure of the entity: the combination of cash, inventory, receivables, investments, and fixed assets.

Management must guide the entity toward sound short- and long-term financial policies and also earn a profit. For example, liquidity and profitability are competitive since the most highly liquid assets (cash and marketable securities) are usually the least profitable. It does the entity little good to be guided toward a maximum profitability goal if resources are not available to meet current obligations. The entity would soon find itself in bankruptcy as

creditors cut off lines of credit and demand payment. Similarly, management must utilize resources properly to obtain a reasonable return.

The investing public, another category of users, is interested in specific types of analysis. Investors are concerned with the financial position of the entity and its ability to earn future profits. The investor uses an analysis of past trends and the current position of the entity to project the future prospects of the entity.

Credit grantors are interested in the financial statements of the entity. Pure credit grantors obtain a limited return from extending credit: a fixed rate of interest (as in the case of banks) or the profit on the merchandise or services provided (as in the case of suppliers). Since these rewards are limited and the possibility exists that the principal will not be repaid, credit grantors tend to be conservative in extending credit.

The same principle applies to suppliers that extend credit. If merchandise with a 20% markup is sold on credit, it takes five successful sales of the same amount to make up for one sale not collected. In addition, the creditor considers the cost of the funds when extending credit. Extending credit really amounts to financing the entity.

A difference exists between the objectives of short-term grantors of credit and those of long-term grantors. The short-term creditor can look primarily to current resources that appear on the financial statements in order to determine if credit should be extended. Long-term creditors must usually look to the future prospects of earnings in order to be repaid. For example, if bonds are issued that are to be repaid in 30 years, the current resources of the entity will not be an indication of its ability to meet this obligation. The repayment for this obligation will come from future earnings. Thus, the objectives of financial analysis by credit grantors will vary, based on such factors as the term of the credit and the purpose. Profitability of the entity may not be a major consideration, as long as the resources for repayment can be projected.

The financial structure of the entity is of interest to creditors because the amount of equity capital in relation to debt indicates the risk that the owners bear in relation to the creditors. The equity capital provides creditors with a cushion against loss. When this equity cushion is small, creditors are bearing the risk of the entity.

Many other parties are interested in analyzing financial statements. Unions that represent employees are interested in the ability of the entity to grant wage increases and fringe benefits, such as pension plans. The government also has an interest in analyzing financial statements for tax purposes and for ensuring compliance with antitrust laws.

Summary

Financial analysis consists of the quantitative and qualitative aspects of measuring the relative financial position among firms and industries. Analysis can be done in different ways, depending on the type of firm or industry and the specific needs of the user. Financial statements will vary by size of firm and among industries.

The SIC and NAICS classification systems have been developed to promote comparability of firms. Determining a company's SIC and/or NAICS is a good starting point in researching a company, an industry, or a product.

The analysis of an entity's financial statements is more meaningful if the results are compared with industry averages and with results of competitors. At the same time, caution must be exercised in using industry averages and results of competitors.

Many library services are available that relate to individual companies, industries, and products. These sources can be a valuable aid in researching a firm.

Financial statements are prepared for a group of diversified users. These users have various needs and uses for the financial statements.

Questions

Q 5-1 What is a ratio? How do ratios help to alleviate the problem of size differences among firms?

Q 5-2 What does each of the following categories of ratios attempt to measure? (a) liquidity; (b) long-term borrowing capacity; (c) profitability. Name a group of users who might be interested in each category.

Q 5-3 Brown Company earned 5.5% on sales in 2011. What further information would be needed to evaluate this result?

Q 5-4 Differentiate between absolute and percentage changes. Which is generally a better measure of change? Why?

Q 5-5 Differentiate between horizontal and vertical analysis. Using sales as a component for each type, give an example that explains the difference.

Q 5-6 What is trend analysis? Can it be used for ratios? For absolute figures?

Q 5-7 Suppose you are comparing two firms within an industry. One is large and the other is small. Will relative or absolute numbers be of more value in each case? What kinds of statistics can help evaluate relative size?

Q 5-8 Are managers the only users of financial reports? Discuss.

Q 5-9 Briefly describe how each of these groups might use financial reports: managers, investors, and creditors.

Q 5-10 Refer to Exhibits 5-3, 5-4, and 5-5 to answer the following questions:

a. For each of the firms illustrated, what is the single largest asset category? Does this seem typical of this type of firm?
b. Which of the three firms has the largest amount in current assets in relation to the amount in current liabilities? Does this seem logical? Explain.

Q 5-11 Differentiate between the types of inventory typically held by a retailing firm and a manufacturing firm.

Q 5-12 Sometimes manufacturing firms have only raw materials and finished goods listed on their balance sheets. This is true of Avon Products, a manufacturer of cosmetics, and it might be true of food canners also. Explain the absence of work in process.

Q 5-13 Using these results for a given ratio, compute the median, upper quartile, and lower quartile. 14%, 13.5%, 13%, 11.8%, 10.5%, 9.5%, 9.3%, 9%, 7%

Q 5-14 You want profile information on the president of a company. Which reference book should be consulted?

Q 5-15 Answer the following concerning the *Almanac of Business and Industrial Financial Ratios*:

a. This service presents statistics for how many size categories of firms?
b. Indicate some of the industries covered by this service.

Q 5-16 Using *The Department of Commerce Financial Report* discussion in the text, answer the following:

a. Could we determine the percentage of total sales income after income taxes that a particular firm had in relation to the total industry sales? Explain.
b. Could we determine the percentage of total assets that a particular firm had in relation to the total industry? Explain.

Q 5-17

a. What is the SIC number? How can it aid in the search of a company, industry, or product?
b. What is the NAICS number? How can it aid in the search of a company, industry, or product?

Q 5-18 You want to know if there have been any reported deaths of officers of a company you are researching. What library source will aid you in your search?

Q 5-19 You want to compare the progress of a given company with a composite of that company's industry group for selected income statement and balance sheet items. Which library source will aid you?

Q 5-20 You are considering buying the stock of a large publicly traded company. You need an opinion of timeliness of the industry and the company. Which publication could you use?

Q 5-21 You want to know the trading activity (volume of its stock sold) for a company. Which service provides this information?

Q 5-22 Indicate some sources that contain a dividend record of payments.

Q 5-23 What source includes comprehensive statistics on many industries?

Q 5-24 You would like to determine the principal business affiliations of the president of a company you are analyzing. Which reference service may have this information?

Q 5-25 Indicate some sources that contain an appraisal of the outlook for particular industries.

Q 5-26 What source contains a comprehensive reference for products and services, company profiles, and a catalog file?

Problems

P 5-1 Best Buy Co., Inc.'s consolidated balance sheets from its 2011 annual report are presented in Exhibit 5-3.

Required

a. Using the balance sheets, prepare a vertical common-size analysis for 2011 and 2010. Use total assets as a base.

(*continued*)

(P 5-1 CONTINUED)

b. Using the balance sheets, prepare a horizontal common-size analysis for 2011 and 2010. Use 2010 as the base.
c. Comment on significant trends that appear in (a) and (b).

P 5-2 Best Buy Co., Inc.'s consolidated statements of earnings from its 2011 annual report are presented in Exhibit 5-3.

Required

a. Using the statement of earnings, prepare a vertical common-size analysis for 2011, 2010, and 2009. Use revenue as a base.
b. Using the statement of earnings, prepare a horizontal common-size analysis for 2011, 2010, and 2009. Use 2009 as the base.
c. Comment on significant trends that appear in (a) and (b).

P 5-3 The Kelly Services, Inc., and Subsidiaries balance sheets from its 2010 annual report are presented in Exhibit 5-4.

Required

a. Using the balance sheets, prepare a vertical common-size analysis for 2010 and 2009. Use total assets as a base.
b. Using the balance sheets, prepare a horizontal common-size analysis for 2010 and 2009. Use 2009 as the base.
c. Comment on significant trends that appear in (a) and (b).

P 5-4 The Kelly Services, Inc., and Subsidiaries statements of earnings from its 2010 annual report are presented in Exhibit 5-4.

Required

a. Using the statements of earnings, prepare a vertical common-size analysis for 2010, 2009, and 2008. Use revenues as the base.
b. Using the statements of earnings, prepare a horizontal common-size analysis for 2010, 2009, and 2008. Use 2008 as the base.
c. Comment on significant trends that appear in (a) and (b).

P 5-5

			Change Analysis	
Item	Year 1	Year 2	Amount	Percent
1	—	3,000		
2	6,000	(4,000)		
3	(7,000)	4,000		
4	4,000	—		
5	8,000	10,000		

Required Determine the absolute change and the percentage for these items.

P 5-6

			Change Analysis	
Item	Year 1	Year 2	Amount	Percent
1	4,000	—		
2	5,000	(3,000)		
3	(9,000)	2,000		
4	7,000	—		
5	—	15,000		

Required Determine the absolute change and the percentage for these items.

P 5-7

Rapid Retail Comparative Statements of Income

(In thousands of dollars)	December 31 2011	December 31 2010	Increase (Decrease) Dollars	Increase (Decrease) Percent
Net sales	$30,000	$28,000		
Cost of goods sold	20,000	19,500		
Gross profit	10,000	8,500		
Selling, general and administrative expense	3,000	2,900		
Operating income	7,000	5,600		
Interest expense	100	80		
Income before taxes	6,900	5,520		
Income tax expense	2,000	1,600		
Net income	$ 4,900	$ 3,920		

Required

a. Complete the increase (decrease) in dollars and percent.
b. Comment on trends.

P 5-8

Required Answer the following multiple-choice questions:

a. Which of the following statements is incorrect?

1. Ratios are fractions expressed in percent or times per year.
2. A ratio can be computed from any pair of numbers.
3. A very long list of meaningful ratios can be derived.
4. There is one standard list of ratios.
5. Comparison of income statement and balance sheet numbers, in the form of ratios, should not be done.

b. A figure from this year's statement is compared with a base selected from the current year.

1. Vertical common-size statement
2. Horizontal common-size statement
3. Funds statement
4. Absolute figures
5. Balance sheet

c. Fremont Electronics has income of $1 million. Columbus Electronics has income of $2 million. Which of the following statements is a correct statement?

1. Columbus Electronics is getting a higher return on assets employed.
2. Columbus Electronics has higher profit margins than does Fremont Electronics.
3. Fremont Electronics could be more profitable than Columbus Electronics in relation to resources employed.
4. No comparison can be made between Fremont Electronics and Columbus Electronics.
5. Fremont Electronics is not making good use of its resources.

d. Industry ratios should *not* be considered as absolute norms for a given industry because of all but which of the following?

1. The firms have different accounting methods.
2. Many companies have varied product lines.

(*continued*)

(**P 5-8** CONTINUED)

3. Companies within the same industry may differ in their method of operations.
4. The fiscal year-ends of the companies may differ.
5. The financial services may be private independent firms.

e. Which of the following is a publication of the federal government for manufacturing, mining, and trade corporations?

1. *Annual Statement Studies*
2. *Standard & Poor's Industry Surveys*
3. *Almanac of Business and Industrial Financial Ratios*
4. *Industry Norms and Key Business Ratios*
5. *The Department of Commerce Financial Report*

f. Which service represents a compilation of corporate tax return data?

1. *Annual Statement Studies*
2. *Standard & Poor's Industry Surveys*
3. *Almanac of Business and Industrial Financial Ratios*
4. *Industry Norms and Key Business Ratios*
5. *The Department of Commerce Financial Report*

g. Which service includes over 800 different lines of business?

1. *Annual Statement Studies*
2. *Standard & Poor's Industry Surveys*
3. *Almanac of Business and Industrial Financial Ratios*
4. *Industry Norms and Key Business Ratios*
5. *The Department of Commerce Financial Report*

h. Which analysis compares each amount with a base amount for a selected base year?

1. Vertical common-size
2. Horizontal common-size
3. Funds statement
4. Common-size statement
5. None of these

i. Suppose you are comparing two firms in the coal industry. Which type of numbers would be most meaningful for statement analysis?

1. Relative numbers would be most meaningful for both firms, especially for interfirm comparisons.
2. Relative numbers are not meaningful.
3. Absolute numbers would be most meaningful.
4. Absolute numbers are not relevant.
5. It is not meaningful to compare two firms.

j. Management is a user of financial analysis. Which of the following comments does *not* represent a fair statement as to the management perspective?

1. Management is not interested in the view of investors.
2. Management is interested in liquidity.
3. Management is interested in profitability.
4. Management is interested in the debt position.
5. Management is interested in the financial structure of the entity.

WEB CASE THOMSON ONE *Business School Edition*

Please complete the Web case that covers material discussed in this chapter at www.cengagebrain.com. You'll be using Thomson ONE Business School Edition, a powerful tool that combines a full range of fundamental financial information, earnings estimates, market data, and source documents for 500 publicly traded companies.

TO THE NET CASE

1. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Alexander & Baldwin" (or under Ticker Symbol, enter "ALEX"). Select the 10-K filed February 25, 2011. For the following partial consolidated statements of income, compute horizontal and vertical common-size analysis. Use December 31, 2008, for the base on the horizontal common-size analysis. Use total revenue for the vertical common-size analysis. Comment on the results.

	Years Ended December 31,		
	2010	2009	2008
Operating revenue:			
Ocean transportation			
Logistics services			
Real estate leasing			
Real estate sales			
Agribusiness			
Total operating revenue			

2. Go to the SEC site (www.sec.gov). Under "Filings & Forms" click on "Search for Company Filings." Click on "Company or fund, etc." Under Company Name, enter "Best Buy Co" (or under Ticker Symbol, enter "BBT"). Select the 10-K filed April 25, 2011. For the following partial consolidated statements of earnings, compute horizontal and vertical common-size analysis. Use February 28, 2009 as the base in the horizontal common-size analysis. Use revenue for the vertical common-size analysis. Comment on the results.

	Consolidated Statements of Earnings		
	February 26, 2011	February 27, 2010	February 28, 2009
Revenue			
Cost of goods sold			
Restructuring charges – cost of goods sold			
Gross profit			
Selling, general and administrative expenses			
Restructuring charges			
Goodwill and tradename impairment			
Operating income			

3. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Amazoncom Inc" (or under Ticker Symbol, enter "AMZN"). Select the 10-K filed January 28, 2011. For the following partial consolidated balance sheets, compute horizontal and vertical common-size analyses. Use December 31, 2009, for the base in the horizontal common-size analysis. Use total liabilities and stockholders' equity for the vertical common-size analysis. Comment on the results.

	December 31,	
	2010	2009
Liabilities and stockholders' equity		
Total current liabilities		
Long-term liabilities		
Commitments and contingencies		
Stockholders' equity		
Preferred stock		
Common stock		
Treasury stock, at cost		
Additional paid-in capital		
Accumulated other comprehensive income (loss)		
Retained earning		
Total stockholders' equity		
Total liabilities and stockholders' equity		

(continued)

(**To The Net** continued)

4. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or fund, etc." Under Company Name, enter "Kroger Co" (or under Ticker Symbol, enter "KR"). Select the 10-K filed March 29, 2011. For the following partial consolidated statement of income, prepare a horizontal common-size analysis with change in dollars. Use the year ended January 30, 2010, as the base. Comment on the results.

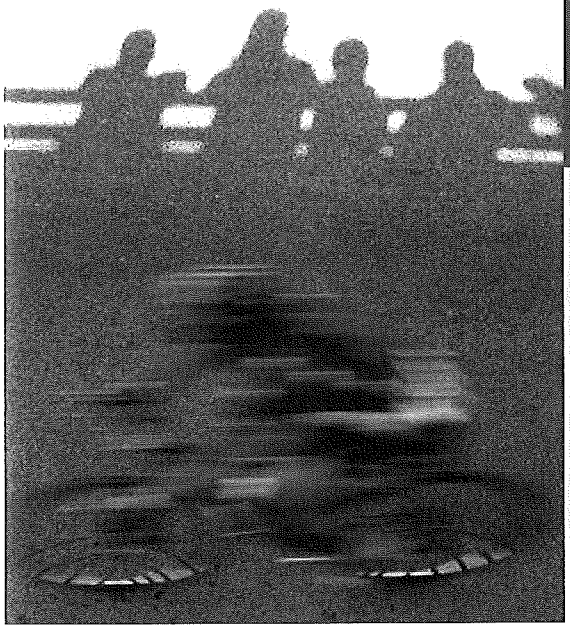
Consolidated Statement of Income (In Part)
Years Ended January 29, 2011, and January 30, 2010
(In millions)

	Jan. 29, 2011 52 Weeks	Jan. 30, 2010 52 Weeks	Increase (Decrease) Dollars	Increase (Decrease) Percent
Sales				
Merchandise costs, including advertising, warehousing, and transportation, excluding items shown separately below				
Operating, general and administrative				
Rent				
Depreciation and amortization				
Goodwill impairment charge				
Operating profit				

5. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Yahoo Inc." (or under Ticker Symbol, enter "YHOO"). Select the 10-K filed February 28, 2011. For the following partial consolidated statements of operations, prepare a horizontal common-size analysis with change in dollars. Use the year ended December 31, 2009, as the base. Comment on the results.

Yahoo! Inc.
Consolidated Statements of Income
Years Ended December 31, 2009, and December 31, 2010 (In thousands)

	Dec. 31, 2009	Dec. 31, 2010	Increase (Decrease) Dollars	Increase (Decrease) Percent
Revenues				
Cost of revenues				
Gross profit				
Operating expenses:				
Sales and Marketing				
Product development				
General and administrative				
Amortization of intangibles				
Restructuring changes, net				
Goodwill impairment change				
Total operating expense				
Income from operations				



Chapter 6

Liquidity of Short-Term Assets; Related Debt-Paying Ability

An entity's ability to maintain its short-term debt-paying ability is important to all users of financial statements. If the entity cannot maintain a short-term debt-paying ability, it will not be able to maintain a long-term debt-paying ability, nor will it be able to satisfy its stockholders. Even a very profitable entity will find itself bankrupt if it fails to meet its obligations to short-term creditors. The ability to pay current obligations when due is also related to the cash-generating ability of the firm. This topic will be discussed in Chapter 10.

When analyzing the short-term debt-paying ability of the firm, we find a close relationship between the current assets and the current liabilities. Generally, the current liabilities will be paid with cash generated from the current assets. As previously indicated, the profitability of the firm does not determine the short-term debt-paying ability. In other words, using accrual accounting, the entity may report very high profits but may not have the ability to pay its current bills because it lacks available funds. If the entity reports a loss, it may still be able to pay short-term obligations.

This chapter suggests procedures for analyzing short-term assets and the short-term debt-paying ability of an entity. The procedures require an understanding of current assets, current liabilities, and the notes to financial statements.

This chapter also includes a detailed discussion of four very important assets—cash, marketable securities, accounts receivable, and inventory. Accounts receivable and inventory, two critical assets, often substantially influence the liquidity and profitability of a firm.

Chapters 6 through 10 will extensively use the 2011 financial statements of Nike, Inc. (Nike) to illustrate the technique of financial analysis. This will aid readers in viewing financial analysis as a whole. Nike, Inc.'s 2011 financial statements are presented following Chapter 10. With the Nike statements is an analysis that summarizes and expands on the Nike analysis in Chapters 6 through 10.

Current Assets, Current Liabilities, and the Operating Cycle

Current assets (1) are in the form of cash, (2) will be realized in cash, or (3) conserve the use of cash *within the operating cycle of a business or one year, whichever is longer.*[1]

The five categories of assets usually found in current assets, listed in their order of liquidity, include cash, marketable securities, receivables, inventories, and prepayments. Other assets may also be classified in current assets, such as assets held for sale. This chapter will examine in detail each type of current asset.

The **operating cycle** for a company is the time period between the acquisition of goods and the final cash realization resulting from sales and subsequent collections. For example, a food store purchases inventory and then sells the inventory for cash. The relatively short time that the inventory remains an asset of the food store represents a very short operating cycle. In another example, a car manufacturer purchases materials and then uses labor and overhead to convert these materials into a finished car. A dealer buys the car on credit and then pays the manufacturer. Compared to the food store, the car manufacturer has a much longer operating cycle, but it is still less than a year. Only a few businesses have an operating cycle longer than a year. For example, if a business is involved in selling resort property, the average time period that the property is held before sale, plus the average collection period, is typically longer than a year.

Cash

Cash is a medium of exchange that a bank will accept for deposit and a creditor will accept for payment. To be classified as a current asset, cash must be free from any restrictions that would prevent its deposit or use it to pay creditors classified as current. If restricted for specific short-term creditors, many firms still classify this cash under current assets, but they disclose the restrictions. Cash restricted for short-term creditors should be eliminated along with the related amount of short-term debt when determining the short-term debt-paying ability. Cash should be available to pay general short-term creditors to be considered as part of the firm's short-term debt-paying ability.

It has become common for banks to require a portion of any loan to remain on deposit in the bank for the duration of the loan period. These deposits, termed **compensating balances**, reduce the amount of cash available to the borrower to meet obligations, and they increase the borrower's effective interest rate.

Compensating balances against short-term borrowings are separately stated in the current asset section or notes. Compensating balances for long-term borrowings are separately stated as noncurrent assets under either investments or other assets.

The cash account on the balance sheet is usually entitled *cash, cash and equivalents*, or *cash and certificates of deposit.* The cash classification typically includes currency and unrestricted funds on deposit with a bank.

Two major problems are encountered when analyzing a current asset: determining a fair valuation for the asset and determining the liquidity of the asset. These problems apply to the cash asset only when it has been restricted. Thus, it is usually a simple matter to decide on the amount of cash to use when determining the short-term debt-paying ability of an entity.

Marketable Securities

The business entity has varying cash needs throughout the year. Because an inferred cost arises from keeping money available, management does not want to keep all of the entity's cash needs in the form of cash throughout the year. The available alternative turns some of the cash into productive use through short-term investments (marketable securities), which can be converted into cash as the need arises.

To qualify as a **marketable security**, the investment must be readily marketable, and it must be the intent of management to convert the investment to cash within the current operating cycle or one year, whichever is longer. The key element of this test is **managerial intent.**

It is to management's advantage to show investments under marketable securities, instead of long-term investments, because this classification improves the liquidity appearance of the firm. When the same securities are carried as marketable securities year after year, they are likely held for a business purpose. For example, the other company may be a major supplier or customer of the firm being analyzed. The firm would not want to sell these securities to pay short-term creditors. Therefore, to be conservative, it is better to reclassify them as investments for analysis purposes.

Investments classified as marketable securities should be temporary. Examples of marketable securities include treasury bills, short-term notes of corporations, government bonds,

corporate bonds, preferred stock, and common stock. Investments in preferred stock and common stock are referred to as *marketable equity securities*.

Debt and equity securities are to be carried at fair value. An exception is that debt securities can be carried at amortized cost if classified as held-to-maturity securities, but these debt securities would be classified under investments (not classified under current assets).[2]

A security's liquidity must be determined in order for it to be classified as a marketable security. The analyst must assume that securities classified as marketable securities are readily marketable.

Exhibit 6-1 presents the marketable securities on the 2011 annual report of Nike, Inc. It discloses the detail of the marketable securities account. Many companies do not disclose this detail.

EXHIBIT 6-1 Nike, Inc.*

Marketable Securities (Short-Term Investments)

NIKE, INC.
CONSOLIDATED BALANCE SHEETS (In Part)

	May 31,	
	2011	2010
	(In millions)	
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 1,955	$ 3,079
Short-term investments (Note 6)	2,583	2,067
Accounts receivable, net (Note 1)	3,138	2,650
Inventories (Notes 1 and 2)	2,715	2,041
Deferred income taxes (Note 9)	312	249
Prepaid expenses and other current assets	594	873
Total current assets	11,297	10,959
Property, plant and equipment, net (Note 3)	2,115	1,932
Identifiable intangible assets, net (Note 4)	487	467
Goodwill (Note 4)	205	188
Deferred income taxes and other assets (Notes 9 and 17)	894	873
Total assets	$14,998	$14,419

Nike, Inc.

Notes to Consolidated Financial Statements (In Part)

Note 1 – Summary of Significant Accounting Policies (In Part)

Short-term Investments

Short-term investments consist of highly liquid investments, including commercial paper, U.S. Treasury, U.S. agency, and corporate debt securities, with maturities over three months from the date of purchase. Debt securities that the Company has the ability and positive intent to hold to maturity are carried at amortized cost. At May 31, 2011 and 2010, the Company did not hold any short-term investments that were classified as held-to-maturity.

At May 31, 2011 and 2010, short-term investments consisted of available-for-sale securities. Available-for-sale securities are recorded at fair value with unrealized gains and losses reported, net of tax, in other comprehensive income, unless unrealized losses are determined to be other than temporary. The Company considers all available-for-sale securities, including those with maturity dates beyond 12 months, as available to support current operational liquidity needs and therefore classifies all securities with maturity dates beyond three months at the date of purchase as current assets within short-term investments on the consolidated balance sheet.

Note 6 This note includes more information on the Company's short-term investments.

*"Our principal business activity is the design, development and worldwide marketing and selling of high quality footwear, apparel, equipment, and accessory products." 10-K
Source: Nike, Inc. 2010 10-K

Receivables

An entity usually has a number of claims to future inflows of cash. These claims are usually classified as **accounts receivable** and **notes receivable** on the financial statements. The primary claim that most entities have comes from the selling of merchandise or services on account to customers, referred to as *trade receivables*, with the customer promising to pay within a limited period of time, such as 30 days. Other claims may be from sources such as loans to employees or a federal tax refund.

Claims from customers, usually in the form of accounts receivable, neither bear interest nor involve claims against specific resources of the customer. In some cases, however, the customer signs a note instead of being granted the privilege of having an open account. Usually, the interest-bearing note will be for a longer period of time than an account receivable. In some cases, a customer who does not pay an account receivable when due signs a *note receivable* in place of the account receivable.

The common characteristic of receivables is that the company expects to receive cash some time in the future. This causes two valuation problems. First, a period of time must pass before the receivable can be collected, so the entity incurs costs for the use of these funds. Second, collection might not be made.

The valuation problem from waiting to collect is *ignored in the valuation of receivables and of notes classified as current assets* because of the short waiting period and the immaterial difference in value. The waiting period problem is not ignored if the receivable or note is long term and classified as an investment. The stipulated rate of interest is presumed to be fair, except when:

1. No interest is stated.
2. The stated rate of interest is clearly unreasonable.
3. The face value of the note is materially different from the cash sales price of the property, goods, or services, or the market value of the note at the date of the transaction.[3]

Under the condition that the face amount of the note does not represent the fair value of the consideration exchanged, *the note is recorded as a present value amount on the date of the original transaction.* The note is recorded at less than (or more than) the face amount, taking into consideration the time value of money. The difference between the recorded amount and the face amount is subsequently amortized as interest income (note receivable) or as interest expense (note payable).

The second problem in valuing receivables or notes is that collection may not be made. Usually, an allowance provides for estimated uncollectible accounts. Estimated losses must be accrued against income, and the impairment of the asset must be recognized (or liability recorded) under the following conditions:

1. Information available prior to the issuance of the financial statements indicates that it is probable that an asset has been impaired, or a liability has been incurred at the date of the financial statements.
2. The amount of the loss can be reasonably estimated.[4]

Both of these conditions are normally met with respect to the uncollectibility of receivables, and the amount subject to being uncollectible is usually material. Thus, in most cases, the company must estimate bad debt expense and indicate the impairment of the receivable. The expense is placed on the income statement, and the impairment of the receivable is disclosed by the use of an account, **allowance for doubtful accounts**, which is subtracted from the gross receivable account. Later, a specific customer's account, identified as being uncollectible, is charged against allowance for doubtful accounts and the gross receivable account on the balance sheet. (This does not mean that the firm will stop efforts to collect.)

It is difficult for the firm to estimate the collectibility of any individual receivable, but when it considers all of the receivables in setting up the allowance, the total estimate should be reasonably accurate. The problem of collection applies to each type of receivable, including notes. The company normally provides for only one allowance account as a matter of convenience, but it considers possible collection problems with all types of receivables and notes when determining the allowance account.

The impairment of receivables may come from causes other than uncollectibility, such as cash discounts allowed, sales returns, and allowances given. Usually, the company considers all of the causes that impair receivables in allowance for doubtful accounts, rather than setting up a separate allowance account for each cause.

Nike presented its receivable account for May 31, 2011 and 2010, as follows:

	2011	2010
Accounts receivable, net	$3,138,000,000	$2,650,000,000

This indicates that net receivables were $3,138,000,000 at May 31, 2011 and $2,650,000,000 at May 31, 2010, after subtracting allowances for doubtful accounts.

NIKE, INC.
Notes to Consolidated Balance Statements (In Part)
Note 1 – Summary of Significant Accounting Policies (In Part)

Allowance for Uncollectible Accounts Receivable

Accounts receivable consists primarily of amounts receivable from customers. We make ongoing estimates relating to the collectability of our accounts receivable and maintain an allowance for estimated losses resulting from the inability of our customers to make required payments. In determining the amount of the allowance, we consider our historical level of credit losses and make judgments about the creditworthiness of significant customers based on ongoing credit evaluations. Accounts receivable with anticipated collection dates greater than 12 months from the balance sheet date and related allowances are considered non-current and recorded in other assets. The allowance for uncollectible accounts receivable was $124 million and $117 million at May 31, 2011 and 2010, respectively, of which $50 million and $43 million was classified as long-term and recorded in other assets.

Using this note, the allowance for uncollectible accounts receivable presented with accounts receivable, net can be computed as follows:

	2011	2010
Total allowance for uncollectible accounts	$124,000,000	$117,000,000
Less: Recorded in other assets	50,000,000	43,000,000
Presented with accounts receivable	$ 74,000,000	$ 74,000,000

The use of the allowance for doubtful accounts approach results in the bad debt expense being charged to the period of sale, thus matching this expense with its related revenue. It also results in recognition of the impairment of the asset. The later charge-off of a specified account receivable does not influence the income statement or net receivables on the balance sheet. The charge-off reduces accounts receivable and allowance for doubtful accounts.

When both conditions specified are not met, or the receivables are immaterial, the entity recognizes bad debt expense using the direct write-off method. With this method, bad debt expense is recognized when a specific customer's account is identified as being uncollectible. At this time, the bad debt expense is recognized on the income statement, and gross accounts receivable is decreased on the balance sheet. This method recognizes the bad debt expense in the same period for both the income statement and the tax return.

The direct write-off method frequently results in the bad debt expense being recognized in the year subsequent to the sale, and thus does not result in a proper matching of expense with revenue. This method reports gross receivables, which does not recognize the impairment of the asset from uncollectibility.

Some companies have trade receivables and installment receivables. Installment receivables will usually be for a relatively long period of time. Installment receivables due within a year are classified under current assets. Installment receivables due after a year are classified below current assets.

Installment receivables classified under current assets are normally much longer than the typical trade receivables. The analyst should make special note of this when making comparisons with competitors. For example, a retail company that has substantial installment receivables is not comparable to a retail company that does not have installment receivables.

Installment receivables are usually considered to be of lower quality than other receivables because of the length of time needed to collect the installment receivables. More importantly, the company with installment receivables should have high standards when granting credit and should closely monitor its receivables.

Exhibit 6-2 indicates the disclosure by CA, Inc., and Subsidiaries.

Customer concentration can be an important consideration in the quality of receivables. When a large portion of receivables is from a few customers, the firm can be highly dependent on those customers. Nike's Form 10-K disclosed that "no customer accounted for 10% or more of our net sales during fiscal 2011."

The liquidity of the trade receivables for a company can be examined by making *two computations. The first computation* determines the number of days' sales in receivables at the end of the accounting period, and *the second computation* determines the accounts receivable turnover. The turnover figure can be computed to show the number of times per year receivables turn over or to show how many days on the average it takes to collect the receivables.

Days' Sales in Receivables

The number of days' sales in receivables relates the amount of the accounts receivable to the average daily sales on account. For this computation, the accounts receivable amount should include trade notes receivable. Other receivables not related to sales on account should not be included in this computation. Compute the days' sales in receivables as follows:

$$\text{Days' Sales in Receivables} = \frac{\text{Gross Receivables}}{\text{Net Sales}/365}$$

EXHIBIT 6-2 CA, Inc. and Subsidiaries*

CA, Inc. and Subsidiaries
Consolidated Balance Sheets (In Part)

(IN MILLIONS, EXCEPT SHARE AMOUNTS)	March 31, 2011	March 31, 2010
Assets		
Current Assets		
Cash and cash equivalents	$ 3,049	$ 2,583
Marketable securities – current	75	—
Trade and installment accounts receivable, net	849	931
Deferred income taxes – current	246	360
Other current assets	152	116
Total Current Assets	4,371	3,990
Marketable securities – noncurrent	104	—
Installment accounts receivable, due after one year, net	—	46
Property and equipment, net of accumulated depreciation of $632 and $538, respectively	437	452
Goodwill	5,688	5,605
Capitalized software and other intangible assets, net	1,284	1,215
Deferred income taxes – noncurrent	284	348
Other noncurrent assets, net	246	232
Total assets	$12,414	$11,888

Note 6. Trade and Installment Accounts Receivable.
Note: A detailed description was included with the statements.

*"CA Technologies is the leading independent enterprise information technology (IT) management software and solutions company with expertise across IT environments – from mainframe and physical to virtual and cloud." 10-K
Source: CA, Inc. and Subsidiaries 2010 10-K

EXHIBIT 6-3 Nike, Inc.

Days' Sales in Receivables

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Accounts receivable, net	$3,138	$2,650
Allowance for uncollectible accounts	74	74
Gross receivables (net plus allowance) (A)	3,212	2,724
Net sales	20,862	19,014
Average daily sales on account (net sales on account divided by 365) (B)	57.16	52.09
Days' sales in receivables (A ÷ B)	56.19 days	52.29 days

Source: Nike, Inc. 2010 10-K

This formula divides the number of days in a year into net sales on account and then divides the resulting figure into gross receivables. Exhibit 6-3 presents this computation for Nike at the end of 2011 and 2010. The increase in days' sales in receivables from 52.29 days at the end of 2010 to 56.19 days at the end of 2011 indicates a negative trend in the control of receivables.

An internal analyst compares days' sales in receivables with the company's credit terms as an indication of how efficiently the company manages its receivables. For example, if the credit term is 30 days, days' sales in receivables should not be materially over 30 days. If days' sales in receivables are materially more than the credit terms, the company has a collection problem. An effort should be made to keep the days' sales in receivables close to the credit terms.

Consider the effect on the quality of receivables from a change in the *credit terms*. Shortening the credit terms indicates that there will be less risk in the collection of future receivables, and lengthening the credit terms indicates a greater risk. Credit term information is readily available for internal analysis and may be available in notes.

Right of return privileges can also be important to the quality of receivables. Liberal right of return privileges can be a negative factor in the quality of receivables and on sales that have already been recorded. Particular attention should be paid to any change in the right of return privileges. Right of return privileges can readily be determined for internal analysis, and this information should be available in a note if considered to be material.

The net sales figure includes collectible and uncollectible accounts. The uncollectible accounts *would not exist* if there were an accurate way, prior to sale, of determining which credit customers would not pay. Firms make an effort to determine credit standing when they approve a customer for credit, but this process does not eliminate uncollectible accounts. Since the net sales figure includes both collectible and uncollectible accounts (gross sales), the comparable receivables figure should include gross receivables, rather than the net receivables figure that remains after the allowance for doubtful accounts is deducted.

The days' sales in receivables indicates the length of time that the receivables have been outstanding at the end of the year. *The indication can be misleading if sales are seasonal and/or the company uses a natural business year.* If the company uses a natural business year for its accounting period, the days' sales in receivables will tend to be understated because the actual sales per day at the end of the year will be low when compared to the average sales per day for the year. The understatement of days' sales in receivables can also be explained by the fact that gross receivables will tend to be below average at that time of year.

The following is an example of how days' sales in receivables will tend to be understated when a company uses a natural business year:

Average sales per day for the entire year	$ 2,000
Sales per day at the end of the natural business year	1,000
Gross receivables at the end of the year	100,000

Days' sales in receivables based on the formula:

$$\frac{\$100{,}000}{\$2{,}000} = 50 \text{ days}$$

Days' sales in receivables based on sales per day at the end of the natural business year:

$$\frac{\$100{,}000}{\$1{,}000} = 100 \text{ days}$$

The liquidity of a company that uses a natural business year tends to be overstated. However, the only positive way to know if a company uses a natural business year is through research. The information may not be readily available.

It is unlikely that a company that has a seasonal business will close the accounting year during peak activity. At the peak of the business cycle, company personnel are busy and receivables are likely to be at their highest levels. If a company closed during peak activity, the days' sales in receivables would tend to be overstated and the liquidity understated.

The length of time that the receivables have been outstanding indicates their collectibility. The days' sales in receivables should be compared for several years. A comparison should also be made between the days' sales in receivables for a particular company and comparable figures for other firms in the industry and industry averages. This type of comparison can be made when doing either internal or external analysis.

Assuming that the days' sales in receivables computation is *not* distorted because of a seasonal business and/or the company's use of a natural business year, consider the following reasons to explain why the days' sales in receivables appears to be abnormally high:

1. Sales volume expands materially late in the year.
2. Receivables are uncollectible and should have been written off.
3. The company seasonally dates invoices. (An example would be a toy manufacturer that ships in August with the receivable due at the end of December.)
4. A large portion of receivables are on the installment basis.

Assuming that the distortion is *not* from a seasonal situation or the company's use of a natural business year, the following should be considered as possible reasons why the days' sales in receivables appears to be abnormally low:

1. Sales volume decreases materially late in the year.
2. A material amount of sales are on a cash basis.
3. The company has a factoring arrangement in which a material amount of the receivables is sold. (With a factoring arrangement, the receivables are sold to an outside party.)

When doing external analysis, many of the reasons why the days' sales in receivables is abnormally high or low cannot be determined without access to internal information.

Accounts Receivable Turnover

Another computation, accounts receivable turnover, indicates the liquidity of the receivables. Compute the accounts receivable turnover measured in times per year as follows:

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

Exhibit 6-4 presents this computation for Nike at the end of 2011 and 2010. The turnover of receivables increased between 2010 and 2011 from 6.69 times per year to 7.03 times per year. For Nike, this would be a positive trend.

Computing the average gross receivables based on beginning-of-year and end-of-year receivables can be misleading if the business has seasonal fluctuations or if the company uses a natural business year. To avoid problems of seasonal fluctuations or of comparing a company that uses a natural business year with one that uses a calendar year, the monthly balances (or even weekly balances) of accounts receivable should be used in the computation. This is feasible when performing internal analysis, but not when performing external analysis. In

EXHIBIT 6-4 Nike, Inc.

Accounts Receivable Turnover

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Net sales (A)	$20,862	$19,014
End-of-year receivables, net	3,138	2,650
Beginning-of-year receivables, net	2,650	2,884
Allowance for doubtful accounts:		
End of 2011 $74.0		
End of 2010 $74.0		
End of 2009 $73.9		
Ending gross receivables (net plus allowance)	3,212	2,724
Beginning gross receivables (net plus allowance)	2,724	2,958
Average gross receivables (B)	2,968	2,841
Accounts receivables turnover (A ÷ B)	7.03 times	6.69 times

Source: Nike, Inc. 2010 10-K

the case of external analysis, quarterly figures can be used to help eliminate these problems. If these problems cannot be eliminated, companies not on the same basis should not be compared. The company with the natural business year tends to overstate its accounts receivable turnover, thus overstating its liquidity.

Accounts Receivable Turnover in Days

The accounts receivable turnover can be expressed in terms of days instead of times per year. Turnover in number of days also gives a comparison with the number of days' sales in the ending receivables. The accounts receivable turnover in days also results in an answer directly related to the firm's credit terms. Compute the accounts receivable turnover in days as follows:

$$\text{Accounts Receivable Turnover in Days} = \frac{\text{Average Gross Receivables}}{\text{Net Sales}/365}$$

This formula is the same as that for determining number of days' sales in receivables, except that the accounts receivable turnover in days is computed using the average gross receivables. Exhibit 6-5 presents the computation for Nike at the end of 2011 and 2010. Accounts receivable turnover in days decreased from 54.54 days in 2010 to 51.92 days in 2011. This would represent a positive trend.

The accounts receivable turnover in times per year and days can both be computed by alternative formulas, using Nike's 2011 figures, as follows:

1. Accounts Receivable Turnover in Times per Year

$$\frac{365}{\text{Accounts Receivable Turnover in Days}} = \frac{365}{51.92} = 7.03 \text{ Times per Year}$$

2. Accounts Receivable Turnover in Days

$$\frac{365}{\text{Accounts Receivable Times per Year}} = \frac{365}{7.03} = 51.92 \text{ Days per Year}$$

The answers obtained for both accounts receivable turnover in number of times per year and accounts receivable turnover in days, using the alternative formulas, may differ slightly from the answers obtained with the previous formulas. The difference is due to rounding.

EXHIBIT 6-5 Nike, Inc.

Accounts Receivable Turnover in Days

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Net sales	$20,862	$19,014
Average gross receivables [A]	2,968	2,841
Sales per day (net sales divided by 365) [B]	57.16	52.09
Accounts receivable turnover in days [A ÷ B]	51.92 days	54.54 days

Source: Nike, Inc. 2010 10-K

Credit Sales versus Cash Sales

A difficulty in computing receivables' liquidity is the problem of credit sales versus cash sales. Net sales includes both credit sales and cash sales. To have a realistic indication of the liquidity of receivables, only the credit sales should be included in the computations. If cash sales are included, the liquidity will be overstated.

The internal analyst determines the credit sales figure and eliminates the problem of credit sales versus cash sales. The external analyst should be aware of this problem and should not be misled by the liquidity figures. The distinction between cash sales and credit sales is not usually a major problem for the external analyst because certain types of businesses tend to sell only on cash terms, and others sell only on credit terms. For example, a manufacturer usually sells only on credit terms. Some businesses, such as a retail department store, have a mixture of credit sales and cash sales.

In cases of mixed sales, the proportion of credit and cash sales tends to stay rather constant. Therefore, the liquidity figures are comparable (but overstated), enabling the reader to compare figures from period to period as well as figures of similar companies.

Inventories

Inventory is often the most significant asset in determining the short-term debt-paying ability of an entity. Often, the inventory account is more than half of the total current assets. Because of the significance of inventories, a special effort should be made to analyze properly this important area.

To be classified as **inventory**, the asset should be for sale in the ordinary course of business, or used or consumed in the production of goods. A trading concern purchases merchandise in a form to sell to customers. Inventories of a trading concern, whether wholesale or retail, usually appear in one inventory account (Merchandise Inventory). A manufacturing concern produces goods to be sold. Inventories of a manufacturing concern are normally classified in three distinct inventory accounts: inventory available to use in production (raw materials inventory), inventory in production (work-in-process inventory), and inventory completed (finished goods inventory).

Usually, it is much more difficult to determine the inventory figures in a manufacturing concern than in a trading concern. The manufacturing concern deals with materials, labor, and overhead when determining the inventory figures, while the trading concern only deals with purchased merchandise. The overhead portion of the work-in-process inventory and the finished goods inventory is often a problem when determining a manufacturer's inventory. The overhead consists of all the costs of the factory other than direct materials and direct labor. From an analysis viewpoint, however, many of the problems of determining the proper inventory value are solved before the entity publishes financial statements.

Inventory is particularly sensitive to changes in business activity, so management must keep inventory in balance with business activity. Failure to do so leads to excessive costs (such as storage cost), production disruptions, and employee layoffs. For example, it is difficult for automobile manufacturers to balance inventories with business activities. When sales decline rapidly, the industry has difficulty adjusting production and the resulting inventory to match the decline. Manufacturers have to use customer incentives, such as price rebates,

to get the large inventory buildup back to a manageable level. When business activity increases, inventory shortages can lead to overtime costs. The increase in activity can also lead to cash shortages because of the length of time necessary to acquire inventory, sell the merchandise, and collect receivables.

Inventory quantities and costs may be accounted for using either the **perpetual** or **periodic** system. Using the perpetual system, the company maintains a continuous record of physical quantities in its inventory. When the perpetual system includes costs (versus quantities only), then the company updates its inventory and cost of goods sold continually as purchases and sales take place. (The inventory needs to be verified by a physical count at least once a year.)

Using the periodic system, physical counts are taken periodically, which should be at least once a year. The cost of the ending inventory is determined by attaching costs to the physical quantities on hand based on the cost flow assumption used. The cost of goods sold is calculated by subtracting the ending inventory from the cost of goods available for sale.

Inventory Cost

The most critical problem that many entities face is determining which cost to use, since the cost prices have usually varied over time. If it were practical to determine the specific cost of an item, this would be a good cost figure to use. It would also substantially reduce inventory valuation problems. In practice, because of the different types of inventory items and the constant flow of these items, it is not practical to determine the specific costs. Exceptions to this are large items and/or expensive items. For example, it would be practical to determine the specific cost of a new car in the dealer's showroom or the specific cost of an expensive diamond in a jewelry store. When specific costs are used, this is referred to as the **specific identification** method.

Because the cost of specific items is not usually practical to determine and because other things are considered (such as the income result), companies typically use a cost flow assumption. The most common cost flow assumptions are first-in, first-out (FIFO), last-in, first-out (LIFO), or some average computation. These assumptions can produce substantially different results because of changing prices.

The **FIFO method** assumes that the first inventory acquired is the first sold. This means that the cost of goods sold account consists of beginning inventory and the earliest items purchased. The latest items purchased remain in inventory. These latest costs are fairly representative of the current costs to replace the inventory. If the inventory flows slowly (low turnover), or if there has been substantial inflation, even FIFO may not produce an inventory figure for the balance sheet representative of the replacement cost. Part of the inventory cost of a manufacturing concern consists of overhead, some of which may represent costs from several years prior, such as depreciation on the plant and equipment. Often, the costs transferred to cost of goods sold under FIFO are low in relation to current costs, so current costs are not matched against current revenue. During a time of inflation, the resulting profit is overstated. To the extent that inventory does not represent replacement cost, an understatement of the inventory cost occurs.

The **LIFO method** assumes that the costs of the latest items bought or produced are matched against current sales. Usually, this assumption materially improves the matching of current costs against current revenue, so the resulting profit figure is fairly realistic. The first items (and oldest costs) in inventory can materially distort the reported inventory figure in comparison with its replacement cost. A firm that has been on LIFO for many years may have some inventory costs that go back 20 years or more. Because of inflation, the resulting inventory figure will not reflect current replacement costs. LIFO accounting was started in the United States. It is now accepted in a few other countries.

Averaging methods lump the costs to determine a midpoint. An average cost computation for inventories results in an inventory amount and a cost of goods sold amount somewhere between FIFO and LIFO. During times of inflation, the resulting inventory is more than LIFO and less than FIFO. The resulting cost of goods sold is less than LIFO and more than FIFO.

Exhibit 6-6 summarizes the inventory methods used by the companies surveyed for *Accounting Trends & Techniques*. The table covers the years 2009, 2008, 2007, and 2006.

EXHIBIT 6-6 Inventory Cost Determination

	Number of Companies			
	2009	2008	2007	2006
Methods				
First-in first-out (FIFO)	325	323	391	385
Last-in first-out (LIFO)	176	179	213	228
Average cost	147	146	155	159
Other	18	17	24	30
Use of LIFO				
All inventories	4	7	14	11
50% or more of inventories	82	86	91	109
Less than 50% of inventories	78	72	88	88
Not determinable	12	14	20	20
Entities using LIFO	176	179	213	228

Note: 2008 – 2009 based on 500 entities surveyed; 2006 – 2007 based on 600 entities surveyed.
Source: Accounting Trends & Techniques, copyright © 2010 by American Institute of Certified Public Accountants, Inc. p. 169. Reprinted with permission.

Exhibit 6-6 indicates that the most popular inventory methods are FIFO and LIFO. It is perceived that LIFO requires more cost to administer than FIFO. LIFO is not as popular during times of relatively low inflation. During times of relatively high inflation, LIFO becomes more popular because LIFO matches the latest costs against revenue. LIFO results in tax benefits because of the matching of recent higher costs against revenue.

Exhibit 6-6 includes a summary of companies that use LIFO for all inventories, 50% or more of inventories, less than 50% of inventories, and not determinable. This summary indicates that only a small percentage of companies that use LIFO use it for all of their inventories.

For the following illustration, the periodic system is used with the inventory count at the end of the year. The same answer would result for FIFO and specific identification under either the perpetual or periodic system. A different answer would result for LIFO or average cost, depending on whether a perpetual or periodic system is used.

To illustrate the major costing methods for determining which costs apply to the units remaining in inventory at the end of the year and which costs are allocated to cost of goods sold, consider the following:

Date	Description	Number of Units	Cost per Unit	Total Cost
January 1	Beginning inventory	200	$ 6	$ 1,200
March 1	Purchase	1,200	7	8,400
July 1	Purchase	300	9	2,700
October 1	Purchase	400	11	4,400
		2,100		$16,700

A physical inventory count on December 31 indicates 800 units on hand. There were 2,100 units available during the year, and 800 remained at the end of the year; therefore, 1,300 units were sold.

Four cost assumptions will be used to illustrate the determination of the ending inventory costs and the related cost of goods sold: *first-in, first-out (FIFO); last-in, first-out (LIFO); average cost*; and *specific identification*.

First-In, First-Out Method (FIFO) The cost of ending inventory is found by attaching cost to the physical quantities on hand, based on the FIFO cost flow assumption. The cost of goods sold is calculated by subtracting the ending inventory cost from the cost of goods available for sale.

		Number of Units		Cost per Unit	Inventory Cost	Cost of Goods Sold
October 1	Purchase	400	@	$11	$4,400	
July 1	Purchase	300	@	9	2,700	
March 1	Purchase	100	@	7	700	
Ending inventory		800			$7,800	
Cost of goods sold ($16,700 − $7,800)						$8,900

Last-In, First-Out Method (LIFO) The cost of the ending inventory is found by attaching costs to the physical quantities on hand, based on the LIFO cost flow assumption. The cost of goods sold is calculated by subtracting the ending inventory cost from the cost of goods available for sale.

		Number of Units		Cost per Unit	Inventory Cost	Cost of Goods Sold
January 1	Beginning inventory	200	@	$6	$1,200	
March 1	Purchase	600	@	7	4,200	
Ending inventory		800			$5,400	
Cost of goods sold ($16,700 − $5,400)						$11,300

Average Cost There are several ways to compute the average cost. The weighted average divides the total cost by the total units to determine the average cost per unit. The average cost per unit is multiplied by the inventory quantity to determine inventory cost. The cost of goods sold is calculated by subtracting the ending inventory cost from the cost of goods available for sale.

	Inventory Cost	Cost of Goods Sold
Total cost $\frac{\$16,700}{\text{Total units } 2,100} = \$7.95$		
Ending inventory (800 × $7.95)	$6,360	
Cost of goods sold ($16,700 − $6,360)		$10,340

Specific Identification With the specific identification method, the items in inventory are identified as coming from specific purchases. For this example, assume that the 800 items in inventory can be identified with the March 1 purchase. The cost of goods sold is calculated by subtracting the ending inventory cost from the cost of goods available for sale.

	Inventory Cost	Cost of Goods Sold
Ending inventory (800 × $7.00)	$5,600	
Cost of goods sold ($16,700 − $5,600)		$11,100

The difference in results for inventory cost and cost of goods sold from using different inventory methods may be material or immaterial. The major impact on the results usually comes from the rate of inflation. In general, the higher the inflation rate, the greater the differences between the inventory methods.

Because the inventory amounts can be substantially different under the various cost flow assumptions, the analyst should be cautious when comparing the liquidity of firms that have different inventory cost flow assumptions. Caution is particularly necessary when one of the firms is using the LIFO method because LIFO may prove meaningless with regard to the firm's short-term debt-paying ability. If two firms that have different cost flow assumptions need to be compared, this problem should be kept in mind to avoid being misled by the indicated short-term debt-paying ability.

Since the resulting inventory amount will not be equal to the cost of replacing the inventory, regardless of the cost method, another problem needs to be considered when determining the short-term debt-paying ability of the firm: the inventory must be sold for more than cost in order to realize a profit. To the extent that the inventory is sold for more than cost, the short-term debt-paying ability has been understated. However, the extent of the understatement is materially reduced by several factors. One, the firm will incur substantial selling and

administrative costs in addition to the inventory cost, thereby reducing the understatement of liquidity to the resulting net profit. Two, the replacement cost of the inventory usually exceeds the reported inventory cost, even if FIFO is used. Therefore, more funds will be required to replace the inventory sold. This will reduce the future short-term debt-paying ability of the firm. Also, since accountants support the conservatism concept, they would rather have a slight understatement of the short-term debt-paying ability of the firm than an overstatement.

The impact on the entity of the different inventory methods must be understood. Since the extremes in inventory costing are LIFO and FIFO, the following summarizes these methods. This summary assumes that the entity faces a period of inflation. The conclusions arrived at in this summary would be reversed if the entity faces a deflationary period.

1. LIFO generally results in a lower profit than does FIFO, as a result of a higher cost of goods sold. This difference can be substantial.
2. Generally, reported profit under LIFO is closer to reality than profit reported under FIFO because the cost of goods sold is closer to replacement cost under LIFO. This is the case under both inflationary and deflationary conditions.
3. FIFO reports a higher inventory ending balance (closer to replacement cost). However, this figure falls short of true replacement cost.
4. The cash flow under LIFO is greater than the cash flow under FIFO because of the difference in tax liability between the two methods; this is an important reason why a company selects LIFO.
5. Some companies use a periodic inventory system, which updates the inventory in the general ledger once a year. Purchases made late in the year become part of the cost of goods sold under LIFO. If prices have increased during the period, the cost of goods sold will increase and profits will decrease. It is important that accountants inform management that profits will be lower if substantial purchases of inventory are made near the end of the year, and a periodic inventory system is used.
6. A company using LIFO could face a severe tax problem and a severe cash problem if sales reduce or eliminate the amount of inventory normally carried. The reduction in inventory would result in older costs being matched against current sales. This distorts profits on the high side. Because of the high reported profit, income taxes would increase. When the firm needs to replenish the inventory, it has to use additional cash. These problems can be reduced by planning and close supervision of production and purchases. A method called dollar-value LIFO is now frequently used by companies that use LIFO. The dollar-value LIFO method uses price indexes related to the inventory instead of units and unit costs. With dollar-value LIFO, inventory each period is determined for pools of inventory dollars. (See an intermediate accounting book for a detailed explanation of dollar-value LIFO.)
7. LIFO would probably not be used for inventory that has a high turnover rate because there would be an immaterial difference in the results between LIFO and FIFO.
8. LIFO results in a lower profit figure than does FIFO, the result of a higher cost of goods sold.

A firm using LIFO must disclose a LIFO reserve account, most often in a note to the financial statement. Usually, the amount disclosed must be added to inventory to approximate the inventory at FIFO. An inventory at FIFO is usually a reasonable approximation of the current replacement cost of the inventory.

Lower-of-Cost-or-Market Rule We have reviewed the inventory cost-based measurements of FIFO, LIFO, average, and specific identification. These cost-based measurements are all considered to be historical cost approaches. The accounting profession decided that a "departure from the cost basis of inventory pricing is required when the utility of the goods is no longer as great as its cost." Utility of the goods has been measured through market values. When the market value of inventory falls below cost, it is necessary to write the inventory down to the lower market value. This is known as the **lower-of-cost-or-market (LCM) rule**. Market is defined in terms of current replacement cost, either by purchase or manufacture.

Following the LCM rule, inventories can be written down below cost but never up above cost. The LCM rule provides for the recognition of the loss in utility during the period in which the loss occurs. The LCM rule is consistent with both the matching and the conservatism assumptions.

The LCM rule is used by many countries other than the United States. As indicated, market is defined in the United States in terms of current replacement cost. Market in other countries may be defined differently, such as "net realizable value."

Nike uses the FIFO inventory method. The Gorman-Rupp Company will be used to illustrate LIFO. Selected balance sheet and notes from the 2008 annual report of the Gorman-Rupp Company are in Exhibit 6-7.

The approximate current costs of the Gorman-Rupp inventory at December 31, 2010 and 2009 follow.

	2010	2009
Balance per balance sheet	$51,449,000	$40,506,000
Additional amount in note	47,100,000	47,600,000
Approximate current costs	$98,549,000	$88,106,000

Liquidity of Inventory Analysis of the liquidity of the inventories can be approached in a manner similar to that taken to analyze the liquidity of accounts receivable. One computation determines the *number of days' sales in inventory* at the end of the accounting period,

EXHIBIT 6-7 The Gorman-Rupp Company*

Illustration of LIFO

Consolidated Balance Sheets (In Part)

(Thousands of dollars)	December 31,	
	2010	2009
Inventories:		
Raw materials and in-process	20,128	22,087
Finished parts	27,005	16,026
Finished products	4,316	2,393
	$51,449	$40,506

Notes to Consolidated Financial Statements (In Part)

Note A – Summary of Major Accounting Policies (In Part)

Inventories
Inventories are stated at the lower of cost or market. The costs for approximately 82% of inventories at December 31, 2010 and 90% at December 31, 2009 are determined using the last-in, first-out (LIFO) method, with the remainder determined using the first-in, first-out (FIFO) method. Cost components include materials inbound freight costs, labor and allocations of fixed cost, and variable overhauls costs are absorption costing basis.

Note C – Inventories
The excess of replacement costs over LIFO cost is approximately $47.1 million and $47.6 million at December 31, 2010 and 2009, respectively. Replacement cost approximates current cost. Some inventory quantities were reduced during 2010 and 2009, resulting in liquidation of some LIFO quantities carried at lower costs from earlier years versus current year costs. The related effect increased net income by $829,000 in 2010 ($0.05 per share) and $1.9 million ($0.12 per share) in 2009. Allowances for excess and obsolete inventory totaled $2.7 million and $2.2 million at December 31, 2010 and 2009, respectively.

*"The Gorman-Rupp company... designs, manufactures and globally sell pumps and related equipment (pump and motor controls) for use in water, wastewater, construction, industrial, petroleum, original equipment, agriculture, fire protection, heating, ventilating and air conditioning ("HVAC"), military and other liquid-handling applications." 10-K
Source: The Gorman-Rupp Company 2010 10-K

another computation determines the *inventory turnover in times per year*, and a third determines the *inventory turnover in days.*

Days' Sales in Inventory The number of days' sales in inventory ratio relates the amount of the ending inventory to the average daily cost of goods sold. All of the inventory accounts should be included in the computation. The computation gives an indication of the length of time that it will take to use up the inventory through sales. This can be misleading if sales are seasonal or if the company uses a natural business year.

If the company uses a natural business year for its accounting period, the number of days' sales in inventory will tend to be understated because the average daily cost of goods sold will be at a low point at this time of year. If the days' sales in inventory is understated, the liquidity of the inventory is overstated. The same caution should be observed here as was suggested for determining the liquidity of receivables, when one company uses a natural business year and the other uses a calendar year.

If the company closes its year during peak activity, the number of days' sales in inventory would tend to be overstated and the liquidity would be understated. As indicated with receivables, no good business reason exists for closing the year when activities are at a peak, so this situation should rarely occur.

Compute the number of days' sales in inventory as follows:

$$\text{Days' Sales in Inventory} = \frac{\text{Ending Inventory}}{\text{Cost of Goods Sold}/365}$$

The formula divides the number of days in a year into the cost of goods sold and then divides the resulting figure into the ending inventory. Exhibit 6-8 presents the number of days' sales in inventory for Nike for May 31, 2011, and May 31, 2010. The number of days' sales in inventory has increased from 72.94 days at the end of 2010 to 87.27 days at the end of 2011. This represents a negative trend.

If sales are approximately constant, then the lower the number of days' sales in inventory, the better the inventory control. An inventory buildup can be burdensome if business volume decreases. However, it can be good if business volume expands, since the increased inventory would be available for customers. The days' sales in inventory estimates the number of days that it will take to sell the current inventory. For several reasons, this estimate may not be very accurate. The cost of goods sold figure is based on last year's sales, divided by the number of days in a year. Sales next year may not be at the same pace as last year. Also, the ending inventory figure may not be representative of the quantity of inventory actually on hand, especially if using LIFO.

A seasonal situation, with inventory unusually low or high at the end of the year, would also result in an unrealistic days' sales in inventory computation. Also, a natural business year with low inventory at the end of the year would result in an unrealistic days' sales in inventory. Therefore, the resulting answer should be taken as a rough estimate, but it helps when comparing periods or similar companies. The number of days' sales in inventory could become too low, resulting in lost sales. Good knowledge of the industry and the company is required to determine if the number of days' sales in inventory is too low.

EXHIBIT 6-8 Nike, Inc.

Days' Sales in Inventory

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Inventories, end of year [A]	$ 2,715	$ 2,041
Cost of goods sold	11,354	10,214
Average daily cost of goods sold (cost of goods sold divided by 365) [B]	31.11	27.98
Number of days' sales in inventory [A ÷ B]	87.27 days	72.94 days

Source: Nike, Inc. 2010 10-K

In some cases, not only will the cost of goods sold not be reported separately, but the figure reported will not be a close approximation of the cost of goods sold. This, of course, presents a problem for the external analyst. In such cases, net sales should be used in place of the cost of goods sold. The result will not be a realistic number of days' sales in inventory, but it can be useful in comparing periods within one firm and in comparing one firm with another. Using net sales produces a much lower number of days' sales in inventory, which materially overstates the liquidity of the ending inventory. Therefore, only the trend determined from comparing one period with another and one firm with other firms should be taken seriously (not actual absolute figures). When you suspect that the days' sales in inventory computation does not result in a reasonable answer, consider using this ratio only to indicate a trend.

If the dollar figures for inventory and/or the cost of goods sold are not reasonable, the ratios calculated with these figures may be distorted. These distortions can be eliminated to some extent by using quantities rather than dollars in the computation. The use of quantities in the computation may work very well for single products or groups of similar products. It does not work very well for a large diversified inventory because of possible changes in the mix of the inventory. Also, using quantities rather than dollars will not be feasible when using externally published statements.

An example of the use of quantities, instead of dollars, follows:

$$\begin{array}{ll} \text{Ending inventory} & 50 \text{ units} \\ \text{Cost of goods sold} & 500 \text{ units} \\ \text{Days' sales in inventory} = \dfrac{50}{500/365} = 36.50 \text{ days} & \end{array}$$

Inventory Turnover Inventory turnover indicates the liquidity of the inventory. This computation is similar to the accounts receivable turnover computation.

The inventory turnover formula follows:

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

Exhibit 6-9 presents the inventory turnover using the 2011 and 2010 figures for Nike. For Nike, the inventory turnover increased from 4.64 to 4.77.

Computing the average inventory based on the beginning-of-year and end-of-year inventories can be misleading if the company has seasonal fluctuations or if the company uses a natural business year. The solution to the problem is similar to that used when computing the receivables turnover—that is, use the monthly (or even weekly) balances of inventory. Monthly estimates of inventory are available for internal analysis, but not for external analysis. Quarterly figures may be available for external analysis. If adequate information is not available, it is important to avoid comparing a company on a natural business year with a company on a calendar year. The company with the natural business year tends to overstate inventory turnover and therefore the liquidity of its inventory.

EXHIBIT 6-9 Nike, Inc.

Merchandise Inventory Turnover

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Cost of goods sold [A]	$11,354	$10,214
Inventories:		
Beginning of year	2,041	2,357
End of year	2,715	2,041
Total	4,756	4,398
Average inventory [B]	2,378	2,199
Merchandise inventory turnover [A ÷ B]	4.77 times per year	4.64 times per year

Source: Nike, Inc. 2010 10-K

Over time, the difference between the inventory turnover for a firm that uses LIFO and one that uses a method that results in a higher inventory figure can become very material. The LIFO firm will have a much lower inventory and therefore a much higher turnover. Also, it may not be reasonable to compare firms in different industries.

When you suspect that the inventory turnover computation does not result in a reasonable answer because of unrealistic inventory and/or cost of goods sold dollar figures, the computation should be performed using quantities rather than dollars. As with the days' sales in inventory, this alternative is feasible only when performing internal analysis. (It may not be feasible even for internal analysis because of product line changes.)

Inventory Turnover in Days The inventory turnover figure can be expressed in number of days instead of times per year. This is comparable to the computation that expressed accounts receivable turnover in days. Compute the inventory turnover in days as follows:

$$\text{Inventory Turnover in Days} = \frac{\text{Average Inventory}}{\text{Cost of Goods Sold}/365}$$

This is the same formula for determining the days' sales in inventory, except that it uses the average inventory. Exhibit 6-10 uses the 2011 and 2010 Nike data to compute the inventory turnover in days. There was a decrease in inventory turnover in days for Nike in 2011. This represents a favorable trend.

The inventory turnover in days can be used to compute the inventory turnover per year, as follows:

$$\frac{365}{\text{Inventory Turnover in Days}} = \text{Inventory Turnover per Year}$$

Using the 2011 Nike data, the inventory turnover is as follows:

$$\frac{365}{\text{Inventory Turnover in Days}} = \frac{365}{76.44} = 4.77 \text{ times per year}$$

Operating Cycle The operating cycle represents the period of time that elapses between the acquisition of goods and the final cash realization resulting from sales and subsequent collections. An approximation of the operating cycle can be determined from the receivables liquidity figures and the inventory liquidity figures. Compute the operating cycle as follows:

Operating Cycle = Accounts Receivable Turnover in Days + Inventory Turnover in Days

Exhibit 6-11 uses the 2011 and 2010 Nike data to compute the operating cycle. For Nike, the operating cycle decreased, which is a positive trend.

The estimate of the operating cycle is not realistic if the accounts receivable turnover in days and the inventory turnover in days are not realistic. Remember that the accounts receivable turnover in days and the inventory turnover in days are understated, and thus the liquidity is overstated, if the company uses a natural business year and computed the averages based on beginning-of-year and end-of-year data. It should also be remembered that the

EXHIBIT 6-10 Nike, Inc.

Inventory Turnover in Days

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Cost of goods sold	$11,354	$10,210
Average inventory [A]	2,378	2,199
Sales of inventory per day (cost of goods sold divided by 365) [B]	31.11	27.97
Inventory turnover in days [A ÷ B]	76.44 days	78.62 days

Source: Nike, Inc. 2010 10-K

EXHIBIT 6-11 Nike, Inc.

Operating Cycle

Years Ended May 31, 2011 and 2010

	2011	2010
Accounts receivable turnover in days [A]	51.92	54.54
Inventory turnover in days [B]	76.44	78.62
Operating cycle [A + B]	128.36	133.16

Source: Nike, Inc. 2010 10-K

inventory turnover in days is understated, and the liquidity of the inventory overstated, if the company uses LIFO inventory. In addition, it should be noted that accounts receivable turnover in days is understated, and liquidity of receivables overstated, if the sales figures used included cash and credit sales.

The operating cycle should be helpful when comparing a firm from period to period and when comparing a firm with similar companies. This would be the case, even if understated or overstated, as long as the figures in the computation are comparable.

Related to the operating cycle figure is a computation that indicates how long it will take to realize cash from the ending inventory. This computation consists of combining the number of days' sales in ending receivables and the number of days' sales in ending inventory. The 2011 Nike data produced a days' sales in ending receivables of 56.19 days and a days' sales in ending inventory of 87.27 days, for a total of 143.46 days. In this case, there is an increase, considering the year-end numbers. This indicates less liquidity at the end of the year than during the year.

Prepayments

Prepayments consist of unexpired costs for which payment has been made. These current assets are expected to be consumed within the operating cycle or one year, whichever is longer. Prepayments normally represent an immaterial portion of the current assets. Therefore, they have little influence on the short-term debt-paying ability of the firm.

Since prepayments have been paid for and will not generate cash in the future, they differ from other current assets. Prepayments relate to the short-term debt-paying ability of the entity because they conserve the use of cash.

Because of the nature of prepayments, the problems of valuation and liquidity are handled in a simple manner. Valuation is taken as the cost that has been paid. Since a prepayment is a current asset that has been paid for in a relatively short period before the balance sheet date, the cost paid fairly represents the cash used for the prepayment. Except in rare circumstances, a prepayment will not result in a receipt of cash; therefore, no liquidity computation is needed. An example of a circumstance where cash is received would be an insurance policy canceled early. No liquidity computation is possible, even in this case.

Other Current Assets

Current assets other than cash, marketable securities, receivables, inventories, and prepayments may be listed under current assets. These other current assets may be very material in any one year and, unless they are recurring, may distort the firm's liquidity.

These assets will, in management's opinion, be realized in cash or conserve the use of cash within the operating cycle of the business or one year, whichever is longer. Examples of other current assets include property held for sale and advances or deposits, often explained in a note.

Current Liabilities

Current liabilities are "obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities."[5] Thus, the definition of current liabilities correlates with the definition of current assets.

Typical items found in current liabilities include accounts payable, notes payable, accrued wages, accrued taxes, collections received in advance, and current portions of long-term liabilities. The 2011 Nike annual report listed current liabilities as follows:

	(In millions)
Current liabilities:	
Current portion of long-term debt	$ 200
Notes payable	187
Accounts payable	1,469
Accrued liabilities	1,985
Income taxes payable	117
Total current liabilities	$3,958

For a current liability, liquidity is not a problem, and the valuation problem is immaterial and is disregarded. Theoretically, the valuation of a current liability should be the present value of the required future outlay of money. Since the difference between the present value and the amount that will be paid in the future is immaterial, the current liability is carried at its face value.

Current Assets Compared with Current Liabilities

A comparison of current assets with current liabilities indicates the short-term debt-paying ability of the entity. Several comparisons can be made to determine this ability:

1. Working capital
2. Current ratio
3. Acid-test ratio
4. Cash ratio

Working Capital

The working capital of a business is an indication of the short-run solvency of the business. Compute working capital as follows:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Exhibit 6-12 presents the working capital for Nike at the end of 2011 and 2010. Nike had $7,339,000,000 in working capital in 2011 and $7,595,000,000 in working capital in 2010. These figures tend to be understated because some of the current assets, such as inventory, may be understated, based on the book figures.

The inventory as reported may be much less than its replacement cost. The difference between the reported inventory amount and the replacement amount is normally material when the firm is using LIFO inventory. The difference may also be material when using one of the other cost methods.

The current working capital amount should be compared with past amounts to determine if working capital is reasonable. Because the relative size of a firm may be expanding

EXHIBIT 6-12 Nike, Inc.

Working Capital

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Current assets [A]	$11,297	$10,959
Current liabilities [B]	3,958	3,364
Working capital [A − B]	$ 7,339	$ 7,595

Source: Nike, Inc. 2010 10-K

or contracting, comparing the working capital of one firm with that of another firm is usually meaningless because of their size differences. If the working capital appears to be out of line, the reasons should be found by analyzing the individual current asset and current liability accounts.

Current Ratio

Another indicator, the current ratio, determines short-term debt-paying ability and is computed as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Exhibit 6-13 presents the current ratio for Nike at the end of 2011 and 2010. For Nike, the current ratio was 2.85 at the end of 2011 and 3.26 at the end of 2010. This indicates a negative trend considering liquidity.

For many years, the guideline for the minimum current ratio has been 2.00. Until the mid-1960s, the typical firm successfully maintained a current ratio of 2.00 or better. Since that time, the current ratio of many firms has declined to a point below the 2.00 guideline. Currently, many firms are not successful in staying above a current ratio of 2.00. This indicates a decline in the liquidity of many firms. It also could indicate better control of receivables and/or inventory.

A comparison with industry averages should be made to determine the typical current ratio for similar firms. In some industries, a current ratio substantially below 2.00 is adequate, while other industries require a much larger ratio. In general, the shorter the operating cycle, the lower the current ratio. The longer the operating cycle, the higher the current ratio.

A comparison of the firm's current ratio with prior periods, and a comparison with industry averages, will help to determine if the ratio is high or low. These comparisons do not indicate why it is high or low. Possible reasons can be found from an analysis of the individual current asset and current liability accounts. Often, the major reasons for the current ratio being out of line will be found in a detailed analysis of accounts receivable and inventory.

The current ratio is considered to be more indicative of the short-term debt-paying ability than the working capital. Working capital only determines the absolute difference between the current assets and current liabilities. The current ratio shows the relationship between the size of the current assets and the size of the current liabilities, making it feasible to compare the current ratio, for example, between IBM and Intel. A comparison of the working capital of these two firms would be meaningless because IBM is a larger firm than Intel.

LIFO inventory can cause major problems with the current ratio because of the understatement of inventory. The result is an understated current ratio. Extreme caution should be exercised when comparing a firm that uses LIFO and a firm that uses some other costing method.

Before computing the current ratio, the analyst should compute the accounts receivable turnover and the merchandise inventory turnover. These computations enable the analyst to

EXHIBIT 6-13 Nike, Inc.

Current Ratio

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Current assets [A]	$11,297	$10,959
Current liabilities [B]	3,958	3,364
Current ratio [A ÷ B]	2.85	3.26

Source: Nike, Inc. 2010 10-K

formulate an opinion as to whether liquidity problems exist with receivables and/or inventory. An opinion as to the quality of receivables and inventory should influence the analyst's opinion of the current ratio. If liquidity problems exist with receivables and/or inventory, the current ratio needs to be much higher.

Acid-Test Ratio (Quick Ratio)

The current ratio evaluates an enterprise's overall liquidity position, considering current assets and current liabilities. At times, it is desirable to access a more immediate position than that indicated by the current ratio. The acid-test (or quick) ratio relates the most liquid assets to current liabilities.

Inventory is removed from current assets when computing the acid-test ratio. Some of the reasons for removing inventory are that inventory may be slow-moving or possibly obsolete, and parts of the inventory may have been pledged to specific creditors. For example, a winery's inventory requires considerable time for aging and, therefore, a considerable time before sale. To include the wine inventory in the acid-test computation would overstate the liquidity. A valuation problem with inventory also exists because it is stated at a cost figure that may be materially different from a fair current valuation.

Compute the acid-test ratio as follows:

$$\text{Acid-Test Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Exhibit 6-14 presents the acid-test ratio for Nike at the end of 2011 and 2010. For Nike, the acid-test ratio was 2.17 at the end of 2011 and 2.65 at the end of 2010. This represents a negative trend.

It may also be desirable to exclude some other items from current assets that may not represent current cash flow, such as prepaid and miscellaneous items. Compute the more conservative acid-test ratio as follows:

$$\text{Acid-Test Ratio} = \frac{\text{Cash Equivalents} + \text{Marketable Securities} + \text{Net Receivables}}{\text{Current Liabilities}}$$

Usually, a very immaterial difference occurs between the acid-test ratios computed under the first method and this second method. Frequently, the only difference is the inclusion of prepayments in the first computation.

Exhibit 6-15 presents the conservative acid-test ratio for Nike at the end of 2011 and 2010. This approach resulted in an acid-test ratio of 1.94 at the end of 2011 and 2.32 at the end of 2010.

From this point on in this book, the more conservative computations will be used for the acid-test ratio. When a company needs to view liquidity with only inventory removed, the alternative computation should be used.

For many years, the guideline for the minimum acid-test ratio was 1.00. A comparison should be made with the firm's past acid-test ratios and with major competitors and the

EXHIBIT 6-14 Nike, Inc.

Acid-Test Ratio

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Current assets	$11,297	$10,959
Less: Ending inventory	2,715	2,041
Remaining current assets [A]	$ 8,582	$ 8,918
Current liabilities [B]	$ 3,958	$ 3,369
Acid-test ratio [A ÷ B]	2.17	2.65

Source: Nike, Inc. 2010 10-K

EXHIBIT 6-15 Nike, Inc.

Acid-Test Ratio (Conservative Approach)

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Cash, including short-term investments	$4,538	$5,146
Net receivables	3,138	2,650
Total quick assets [A]	$7,676	$7,796
Current liabilities [B]	$3,958	$3,364
Acid-test ratio [A ÷ B]	1.94 times	2.32 times

Source: Nike, Inc. 2010 10-K

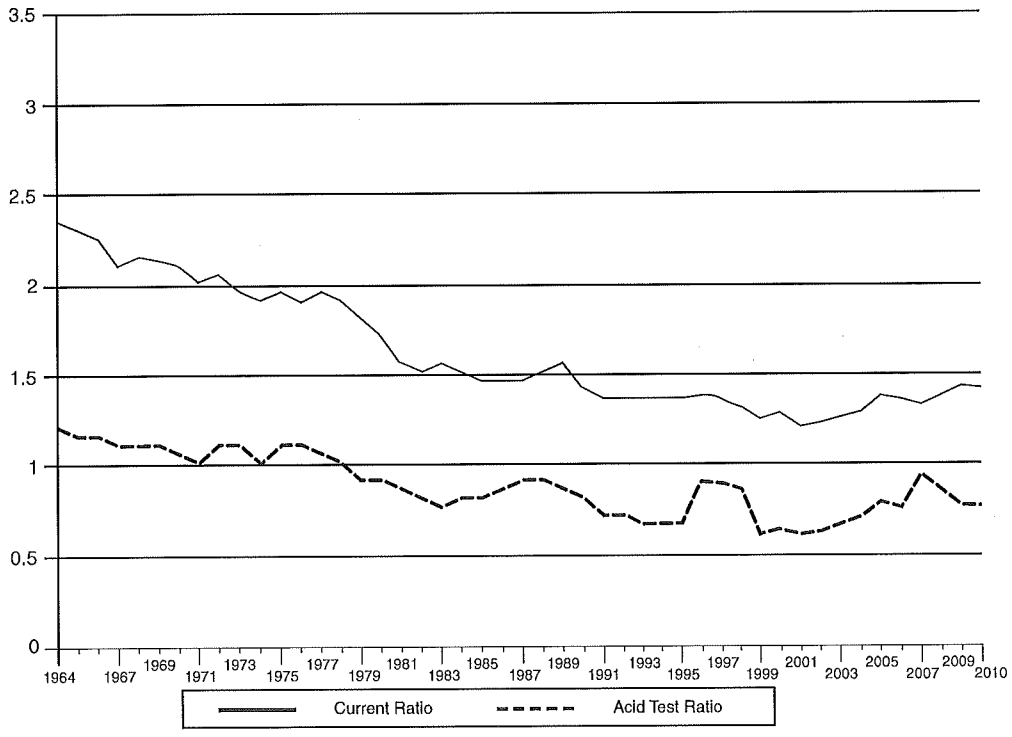
industry averages. Some industries find that a ratio less than 1.00 is adequate, while others need a ratio greater than 1.00. For example, a grocery store may sell only for cash and not have receivables. This type of business can have an acid-test ratio substantially below the 1.00 guideline and still have adequate liquidity.

Before computing the acid-test ratio, the accounts receivable turnover should be calculated. An opinion as to the quality of receivables should help the analyst form an opinion of the acid-test ratio.

There has been a major decline in the liquidity of companies in the United States, as measured by the current ratio and the acid-test ratio. Exhibit 6-16 shows the dramatically

EXHIBIT 6-16 Trends in Current Ratio and Acid-Test Ratio

All U.S. Manufacturing Companies, 1964–2010



Source: Quarterly financial reports of manufacturing, mining, and trading, U.S. Department of Commerce, Washington, DC.

reduced liquidity of U.S. companies. Reduced liquidity leads to more bankruptcies and greater risk for creditors and investors.

Cash Ratio

Sometimes an analyst needs to view the liquidity of a firm from an extremely conservative point of view. For example, the company may have pledged its receivables and its inventory, or the analyst suspects severe liquidity problems with inventory and receivables. The best indicator of the company's short-run liquidity may be the cash ratio. Compute the cash ratio as follows:

$$\text{Cash Ratio} = \frac{\text{Cash Equivalents} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

The analyst seldom gives the cash ratio much weight when evaluating the liquidity of a firm because it is not realistic to expect a firm to have enough cash equivalents and marketable securities to cover current liabilities. If the firm must depend on cash equivalents and marketable securities for its liquidity, its solvency may be impaired.

Analysts should consider the cash ratio of companies that have naturally slow-moving inventories and receivables and companies that are highly speculative. For example, a land development company in Florida may sell lots paid for over a number of years on the installment basis, or the success of a new company may be in doubt.

The cash ratio indicates the immediate liquidity of the firm. A high cash ratio indicates that the firm is not using its cash to its best advantage; cash should be put to work in the operations of the company. Detailed knowledge of the firm is required, however, before drawing a definite conclusion. Management may have plans for the cash, such as a building expansion program. A cash ratio that is too low could indicate an immediate problem with paying bills.

Exhibit 6-17 presents this ratio for Nike at the end of 2011 and 2010. For Nike, the cash ratio was 1.15 at the end of 2011 and 1.53 at the end of 2010. Nike's cash ratio decreased materially at the end of 2011 in relation to the end of 2010.

Other Liquidity Considerations

Another ratio that may be useful to the analyst is the sales to working capital ratio. In addition, there may be liquidity considerations that are not on the face of the statements. This ratio and other liquidity considerations are discussed in this section.

Sales to Working Capital (Working Capital Turnover)

Relating sales to working capital gives an indication of the turnover in working capital per year. The analyst needs to compare this ratio with the past, with competitors, and with industry averages in order to form an opinion as to the adequacy of the working capital turnover. Like many ratios, no rules of thumb exist as to what it should be. Since this ratio relates a balance sheet number (working capital) to an income statement number (sales), a problem exists if the balance sheet number is not representative of the year. To avoid this

EXHIBIT 6-17 Nike, Inc.

Cash Ratio

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Cash, including short-term investments [A]	$4,538	$5,146
Current liabilities [B]	$3,958	$3,364
Cash ratio [A ÷ B]	1.15	1.53

Source: Nike, Inc. 2010 10-K

problem, use the average monthly working capital figure when available. Compute the working capital turnover as follows:

$$\text{Sales to Working Capital} = \frac{\text{Sales}}{\text{Average Working Capital}}$$

A low working capital turnover ratio tentatively indicates an unprofitable use of working capital. In other words, sales are not adequate in relation to the available working capital. A high ratio tentatively indicates that the firm is undercapitalized (overtrading). An undercapitalized firm is particularly susceptible to liquidity problems when a major adverse change in business conditions occurs.

Exhibit 6-18 presents this ratio for Nike at the end of 2011 and 2010. The sales to working capital ratio increased from 2010 to 2011. (Working capital in 2011 was lower in relation to sales than it was in 2010.) This tentatively indicates a slightly more profitable use of working capital in 2011 in relation to 2010.

Liquidity Considerations Not on the Face of the Statements

A firm may have a better liquidity position than indicated by the face of the financial statements. The following list presents several examples:

1. Unused bank credit lines would be a positive addition to liquidity. They are frequently disclosed in notes.
2. A firm may have some long-term assets that could be converted to cash quickly. This would add to the firm's liquidity. Extreme caution is advised if there is any reliance on long-term assets for liquidity. For one thing, the long-term assets are usually needed in operations. Second, even excess long-term assets may not be easily converted into cash in a short period of time. An exception might be investments, depending on the nature of the investments.
3. A firm may be in a very good long-term debt position and therefore have the capability to issue debt or stock. Thus, the firm could relieve a severe liquidity problem in a reasonable amount of time.

A firm may not be in as good a position of liquidity as indicated by the ratios, as the following examples show:

1. A firm may have notes discounted on which the other party has full recourse against the firm. Discounted notes should be disclosed in a note. (A company that discounts a customer note receivable is in essence selling the note to the bank with recourse.)
2. A firm may have major contingent liabilities that have not been recorded, such as a disputed tax claim. Unrecorded contingencies that are material are disclosed in a note.
3. A firm may have guaranteed a bank note for another company. This would be disclosed in a note.

EXHIBIT 6-18 Nike, Inc.

Sales to Working Capital

Years Ended May 31, 2011 and 2010

(In millions)	2011	2010
Net sales [A]	$20,862	$19,014
Working capital at beginning of year	7,595	6,457
Working capital at end of year	7,339	7,595
Average working capital [B]	7,467	7,026
Sales to working capital [A ÷ B]	2.79 times per year	2.71 times per year

Source: Nike, Inc. 2010 10-K

Summary

The ratios related to the liquidity of short-term assets and the short-term debt-paying ability follow:

$$\text{Days' Sales in Receivables} = \frac{\text{Gross Receivables}}{\text{Net Sales}/365}$$

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

$$\text{Accounts Receivable Turnover in Days} = \frac{\text{Average Gross Receivables}}{\text{Net Sales}/365}$$

$$\text{Days' Sales in Inventory} = \frac{\text{Ending Inventory}}{\text{Cost of Goods Sold}/365}$$

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

$$\text{Inventory Turnover in Days} = \frac{\text{Average Inventory}}{\text{Cost of Goods Sold}/365}$$

$$\text{Operating Cycle} = \text{Accounts Receivable Turnover in Days} + \text{Inventory Turnover in Days}$$

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Acid-Test Ratio} = \frac{\text{Cash Equivalents} + \text{Marketable Securities} + \text{Net Receivables}}{\text{Current Liabilities}}$$

$$\text{Cash Ratio} = \frac{\text{Cash Equivalents} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

$$\text{Sales to Working Capital} = \frac{\text{Sales}}{\text{Average Working Capital}}$$

Questions

Q 6-1 It is proposed at a stockholders' meeting that the firm slow its rate of payments on accounts payable in order to make more funds available for operations. It is contended that this procedure will enable the firm to expand inventory, which will in turn enable the firm to generate more sales. Comment on this proposal.

Q 6-2 Jones Wholesale Company has been one of the fastest growing wholesale firms in the United States for the last five years in terms of sales and profits. The firm has maintained a current ratio above the average for the wholesale industry. Mr. Jones has asked you to explain possible reasons why the firm is having difficulty meeting its payroll and its accounts payable. What would you tell Mr. Jones?

Q 6-3 What is the reason for separating current assets from the rest of the assets found on the balance sheet?

Q 6-4 Define the operating cycle.

Q 6-5 Define current assets.

Q 6-6 List the major categories of items usually found in current assets.

Q 6-7 Rachit Company has cash that has been frozen in a bank in Cuba. Should this cash be classified as a current asset? Discuss.

Q 6-8 A. B. Smith Company has guaranteed a $1 million bank note for Alender Company. How would this influence the liquidity ratios of A. B. Smith Company? How should this situation be considered?

Q 6-9 Arrow Company has invested funds in a supplier to help ensure a steady supply of needed materials. Would this investment be classified as a marketable security (current asset)?

Q 6-10 List the two computations that are used to determine the liquidity of receivables.

Q 6-11 List the two computations that are used to determine the liquidity of inventory.

Q 6-12 Would a company that uses a natural business year tend to overstate or understate the liquidity of its receivables? Explain.

Q 6-13 T. Melcher Company uses the calendar year. Sales are at a peak during the holiday season, and T. Melcher Company extends 30-day credit terms to customers. Comment on the expected liquidity of its receivables, based on the days' sales in receivables and the accounts receivable turnover.

Q 6-14 A company that uses a natural business year, or ends its year when business is at a peak, will tend to distort the liquidity of its receivables when end-of-year and beginning-of-year receivables are used in the computation. Explain how a company that uses a natural business year or ends its year when business is at a peak can eliminate the distortion in its liquidity computations.

Q 6-15 If a company has substantial cash sales and credit sales, is there any meaning to the receivable liquidity computations that are based on gross sales?

Q 6-16 Describe the difference in inventories between a firm that is a retail company and a firm that is a manufacturing concern.

Q 6-17 During times of inflation, which of the inventory costing methods listed below would give the most realistic valuation of inventory? Which method would give the least realistic valuation of inventory? Explain.

a. LIFO
b. Average
c. FIFO

Q 6-18 The number of days' sales in inventory relates the amount of the ending inventory to the average daily cost of goods sold. Explain why this computation may be misleading under the following conditions:

a. The company uses a natural business year for its accounting period.
b. The company closes the year when activities are at a peak.
c. The company uses LIFO inventory, and inflation has been a problem for a number of years.

Q 6-19 The days' sales in inventory is an estimate of the number of days that it will take to sell the current inventory.

a. What is the ideal number of days' sales in inventory?
b. In general, does a company want many days' sales in inventory?
c. Can days' sales in inventory be too low?

Q 6-20 Some firms do not report the cost of goods sold separately on their income statements. In such a case, how should you proceed to compute days' sales in inventory? Will this procedure produce a realistic days' sales in inventory?

Q 6-21 One of the computations used to determine the liquidity of inventory determines the inventory turnover. In this computation, usually the average inventory is determined by using the beginning-of-the-year and the end-of-the-year inventory figures, but this computation can be misleading if the company has seasonal fluctuations or uses a natural business year. Suggest how to eliminate these distortions.

Q 6-22 Explain the influence of the use of LIFO inventory on the inventory turnover.

Q 6-23 Define working capital.

Q 6-24 Define current liabilities.

Q 6-25 Several comparisons can be made to determine the short-term debt-paying ability of an entity. Some of these are:

a. Working capital
b. Current ratio
c. Acid-test ratio
d. Cash ratio

1. Define each of these terms.
2. If the book figures are based on cost, will the results of the preceding computations tend to be understated or overstated? Explain.
3. What figures should be used in order to avoid the problem referred to in (2)?

Q 6-26 Discuss how to use working capital in analysis.

Q 6-27 Both current assets and current liabilities are used in the computation of working capital and the current ratio, yet the current ratio is considered to be more indicative of the short-term debt-paying ability. Explain.

Q 6-28 In determining the short-term liquidity of a firm, the current ratio is usually considered to be a better guide than the acid-test ratio, and the acid-test ratio is considered to be a better guide than the cash ratio. Discuss when the acid-test ratio would be preferred over the current ratio and when the cash ratio would be preferred over the acid-test ratio.

Q 6-29 Discuss some benefits that may accrue to a firm from reducing its operating cycle. Suggest some ways that may be used to reduce a company's operating cycle.

Q 6-30 Discuss why some firms have longer natural operating cycles than other firms.

Q 6-31 Would a firm with a relatively long operating cycle tend to charge a higher markup on its inventory cost than a firm with a short operating cycle? Discuss.

Q 6-32 Is the profitability of the entity considered to be of major importance in determining the short-term debt-paying ability? Discuss.

Q 6-33 Does the allowance method for bad debts or the direct write-off method result in the fairest presentation of receivables on the balance sheet and the fairest matching of expenses against revenue?

Q 6-34 When a firm faces an inflationary condition and the LIFO inventory method is based on a periodic basis, purchases late in the year can have a substantial influence on profits. Comment.

Q 6-35 Why could a current asset such as Net Assets of Business Held for Sale distort a firm's liquidity, in terms of working capital or the current ratio?

Q 6-36 Before computing the current ratio, the accounts receivable turnover and the inventory turnover should be computed. Why?

Q 6-37 Before computing the acid-test ratio, compute the accounts receivable turnover. Comment.

Q 6-38 Which inventory costing method results in the highest balance sheet amount for inventory? (Assume inflationary conditions.)

Q 6-39 Indicate the single most important factor that motivates a company to select LIFO.

Q 6-40 A relatively low sales to working capital ratio is a tentative indication of an efficient use of working capital. Comment. A relatively high sales to working capital ratio is a tentative indication that the firm is undercapitalized. Comment.

Q 6-41 List three situations in which the liquidity position of the firm may be better than that indicated by the liquidity ratios.

Q 6-42 List three situations in which the liquidity position of the firm may not be as good as that indicated by the liquidity ratios.

Q 6-43 Indicate the objective of the sales to working capital ratio.

Q 6-44 Why does LIFO result in a very unrealistic ending inventory figure in a period of rising prices?

Q 6-45 The cost of inventory at the close of the calendar year of the first year of operation is $40,000, using LIFO inventory, resulting in a profit before tax of $100,000. If the FIFO inventory would have been $50,000, what would the reported profit before tax have been? If the average cost method would have resulted in an inventory of $45,000, what would the reported profit before tax have been? Should the inventory costing method be disclosed? Why?

Problems

P 6-1 In this problem, compute the acid-test ratio as follows:

$$\frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

Required Determine the cost of sales of a firm with the following financial data.

Current ratio	2.5
Quick ratio or acid-test	2.0
Current liabilities	$400,000
Inventory turnover	3 times

P 6-2 Hawk Company wants to determine the liquidity of its receivables. It has supplied you with the following data regarding selected accounts for December 31, 2011, and 2010:

	2011	2010
Net sales	$1,180,178	$2,200,000
Receivables, less allowance for losses and discounts		
Beginning of year (allowance for losses and discounts, 2011—$12,300; 2010—$7,180)	240,360	230,180
End of year (allowance for losses and discounts, 2011—$11,180; 2010—$12,300)	220,385	240,360

Required

a. Compute the number of days' sales in receivables at December 31, 2011, and 2010.
b. Compute the accounts receivable turnover for 2011 and 2010. (Use year-end gross receivables.)
c. Comment on the liquidity of Hawk Company receivables.

P 6-3 Mr. Williams, the owner of Williams Produce, wants to maintain control over accounts receivable. He understands that days' sales in receivables and accounts receivable turnover will give a good indication of how well receivables are being managed. Williams Produce does 60% of its business during June, July, and August. Mr. Williams provided the following pertinent data:

	For Year Ended December 31, 2011	For Year Ended July 31, 2011
Net sales	$800,000	$790,000
Receivables, less allowance for doubtful accounts		
Beginning of period (allowance January 1, $3,000; August 1, $4,000)	50,000	89,000
End of period (allowance December 31, $3,500; July 31, $4,100)	55,400	90,150

Required

a. Compute the days' sales in receivables for July 31, 2011, and December 31, 2011, based on the accompanying data.
b. Compute the accounts receivable turnover for the period ended July 31, 2011, and December 31, 2011. (Use year-end gross receivables.)
c. Comment on the results from (a) and (b).

P 6-4 L. Solomon Company would like to compare its days' sales in receivables with that of a competitor, L. Konrath Company. Both companies have had similar sales results in the past, but L. Konrath Company has had better profit results. L. Solomon Company suspects that one reason for the better profit results is that L. Konrath Company did a better job of managing receivables. L. Solomon Company uses a calendar year that ends on December 31, while L. Konrath Company uses a fiscal year that ends on July 31. Information related to sales and receivables of the two companies follows:

	For Year Ended December 31, 20XX
L. Solomon Company	
Net sales	$1,800,000
Receivables, less allowance for doubtful accounts of $8,000	110,000

(*continued*)

(**P 6-4** CONTINUED)

	For Year Ended July 31, 20XX
L. Konrath Company	
Net sales	$1,850,000
Receivables, less allowance for doubtful accounts of $4,000	60,000

Required

a. Compute the days' sales in receivables for both companies. (Use year-end gross receivables.)
b. Comment on the results.

P 6-5a P. Gibson Company has computed its accounts receivable turnover in days to be 36.
Required Compute the accounts receivable turnover per year.

P 6-5b P. Gibson Company has computed its accounts receivable turnover per year to be 12.
Required Compute the accounts receivable turnover in days.

P 6-5c P. Gibson Company has gross receivables at the end of the year of $280,000 and net sales for the year of $2,158,000.
Required Compute the days' sales in receivables at the end of the year.

P 6-5d P. Gibson Company has net sales of $3,500,000 and average gross receivables of $324,000.
Required Compute the accounts receivable turnover.

P 6-6 J. Shaffer Company has an ending inventory of $360,500 and a cost of goods sold for the year of $2,100,000. It has used LIFO inventory for a number of years because of persistent inflation.
Required

a. Compute the days' sales in inventory.
b. Is J. Shaffer Company's days' sales in inventory as computed realistic in comparison with the actual days' sales in inventory?
c. Would the days' sales in inventory computed for J. Shaffer Company be a helpful guide?

P 6-7 D. Szabo Company had an average inventory of $280,000 and a cost of goods sold of $1,250,000.
Required Compute the following:

a. The inventory turnover in days
b. The inventory turnover

P 6-8 The inventory and sales data for this year for G. Rabbit Company are as follows:

	End of Year	Beginning of Year
Net sales	$3,150,000	
Gross receivables	180,000	$160,000
Inventory	480,000	390,000
Cost of goods sold	2,250,000	

Required Using the above data from G. Rabbit Company, compute the following:

a. The accounts receivable turnover in days
b. The inventory turnover in days
c. The operating cycle

P 6-9 Anna Banana Company would like to estimate how long it will take to realize cash from its ending inventory. For this purpose, the following data are submitted:

Accounts receivable, less allowance for doubtful accounts of $30,000	$ 560,000
Ending inventory	680,000
Net sales	4,350,000
Cost of goods sold	3,600,000

Required Estimate how long it will take to realize cash from the ending inventory.

P 6-10 Laura Badora Company has been using LIFO inventory. The company is required to disclose the replacement cost of its inventory and the replacement cost of its cost of goods sold on its annual statements. Selected data for the year ended 2011 are as follows:

Ending accounts receivable, less allowance for doubtful accounts of $25,000	$ 480,000
Ending inventory, LIFO (estimated replacement $900,000)	570,000
Net sales	3,650,000
Cost of goods sold (estimated replacement cost $3,150,000)	2,850,000

Required

a. Compute the days' sales in receivables.
b. Compute the days' sales in inventory, using the cost figure.
c. Compute the days' sales in inventory, using the replacement cost for the inventory and the cost of goods sold.
d. Should replacement cost of inventory and cost of goods sold be used, when possible, when computing days' sales in inventory? Discuss.

P 6-11 A partial balance sheet and income statement for King Corporation follow:

KING CORPORATION
Partial Balance Sheet
December 31, 2011

Assets	
Current assets:	
Cash	$ 33,493
Marketable securities	215,147
Trade receivables, less allowance of $6,000	255,000
Inventories, LIFO	523,000
Prepaid expenses	26,180
Total current assets	$1,052,820
Liabilities	
Current liabilities:	
Trade accounts payable	$ 103,689
Notes payable (primarily to banks) and commercial paper	210,381
Accrued expenses and other liabilities	120,602
Income taxes payable	3,120
Current maturities of long-term debt	22,050
Total current liabilities	$ 459,842

KING CORPORATION
Partial Income Statement
For Year Ended December 31, 2011

Net sales	$3,050,600
Miscellaneous income	45,060
	$3,095,660
Costs and expenses:	
Cost of sales	$2,185,100
Selling, general, and administrative expenses	350,265
Interest expense	45,600
Income taxes	300,000
	2,880,965
Net income	$ 214,695

Note: The trade receivables at December 31, 2010, were $280,000, net of an allowance of $8,000, for a gross receivables figure of $288,000. The inventory at December 31, 2010, was $565,000.

(continued)

(**P 6-11** CONTINUED)

Required Compute the following:

a. Working capital
b. Current ratio
c. Acid-test ratio
d. Cash ratio
e. Days' sales in receivables
f. Accounts receivable turnover in days
g. Days' sales in inventory
h. Inventory turnover in days
i. Operating cycle

P 6-12 Individual transactions often have a significant impact on ratios. This problem will consider the direction of such an impact.

		Total Current Assets	Total Current Liabilities	Net Working Capital	Current Ratio
a.	Cash is acquired through issuance of additional common stock.				
b.	Merchandise is sold for cash. (Assume a profit.)				
c.	A fixed asset is sold for more than book value.				
d.	Payment is made to trade creditors for previous purchases.				
e.	A cash dividend is declared and paid.				
f.	A stock dividend is declared and paid.				
g.	Cash is obtained through long-term bank loans.				
h.	A profitable firm increases its fixed assets depreciation allowance account.				
i.	Current operating expenses are paid.				
j.	Ten-year notes are issued to pay off accounts payable.				
k.	Accounts receivable are collected.				
l.	Equipment is purchased with short-term notes.				
m.	Merchandise is purchased on credit.				
n.	The estimated taxes payable are increased.				
o.	Marketable securities are sold below cost.				

Required Indicate the effects of the previous transactions on each of the following: total current assets, total current liabilities, net working capital, and current ratio. Use + to indicate an increase, − to indicate a decrease, and 0 to indicate no effect. Assume an initial current ratio of more than 1 to 1.

P 6-13 Current assets and current liabilities for companies D and E are summarized as follows:

	Company D	Company E
Current assets	$400,000	$900,000
Current liabilities	200,000	700,000
Working capital	$200,000	$200,000

Required Evaluate the relative solvency of companies D and E.

P 6-14 Current assets and current liabilities for companies R and T are summarized as follows.

	Company R	Company T
Current assets	$400,000	$800,000
Current liabilities	200,000	400,000
Working capital	$200,000	$400,000

Required Evaluate the relative solvency of companies R and T.

P 6-15 The following financial data were taken from the annual financial statements of Smith Corporation:

	2009	2010	2011
Current assets	$ 450,000	$ 400,000	$ 500,000
Current liabilities	390,000	300,000	340,000
Sales	1,450,000	1,500,000	1,400,000
Cost of goods sold	1,180,000	1,020,000	1,120,000
Inventory	280,000	200,000	250,000
Accounts receivable	120,000	110,000	105,000

Required

a. Based on these data, calculate the following for 2010 and 2011:

1. Working capital
2. Current ratio
3. Acid-test ratio
4. Accounts receivable turnover
5. Merchandise inventory turnover
6. Inventory turnover in days

b. Evaluate the results of your computations in regard to the short-term liquidity of the firm.

P 6-16 Anne Elizabeth Corporation is engaged in the business of making toys. A high percentage of its products are sold to consumers during November and December. Therefore, retailers need to have the toys in stock prior to November. The corporation produces on a relatively stable basis during the year in order to retain its skilled employees and to minimize its investment in plant and equipment. The seasonal nature of its business requires a substantial capacity to store inventory.

The gross receivables balance at April 30, 2010, was $75,000, and the inventory balance was $350,000 on this date. Sales for the year ended April 30, 2011, totaled $4,000,000, and the cost of goods sold totaled $1,800,000.

Anne Elizabeth Corporation uses a natural business year that ends on April 30. Inventory and accounts receivable data are given in the following table for the year ended April 30, 2011:

	Month-End Balance	
Month	Gross Receivables	Inventory
May 2010	$ 60,000	$525,000
June 2010	40,000	650,000
July 2010	50,000	775,000
August 2010	60,000	900,000
September 2010	200,000	975,000
October 2010	800,000	700,000
November 2010	1,500,000	400,000
December 2010	1,800,000	25,000
January 2011	1,000,000	100,000
February 2011	600,000	150,000
March 2011	200,000	275,000
April 2011	50,000	400,000

Required

a. Using averages based on the year-end figures, compute the following:

1. Accounts receivable turnover in days
2. Accounts receivable turnover per year
3. Inventory turnover in days
4. Inventory turnover per year

(continued)

(**P 6-16** CONTINUED)

b. Using averages based on monthly figures, compute the following:

1. Accounts receivable turnover in days
2. Accounts receivable turnover per year
3. Inventory turnover in days
4. Inventory turnover per year

c. Comment on the difference between the ratios computed in (a) and (b).
d. Compute the days' sales in receivables.
e. Compute the days' sales in inventory.
f. How realistic are the days' sales in receivables and the days' sales in inventory that were computed in (d) and (e)?

P 6-17 The following data relate to inventory for the year ended December 31, 2011:

Date	Description	Number of Units	Cost per Unit	Total Cost
January 1	Beginning inventory	400	$5.00	$ 2,000
March 1	Purchase	1,000	6.00	6,000
August 1	Purchase	200	7.00	1,400
November 1	Purchase	200	7.50	1,500
		1,800		$10,900

A physical inventory on December 31, 2011, indicates that 400 units are on hand and that they came from the March 1 purchase.

Required Compute the cost of goods sold for the year ended December 31, 2011, and the ending inventory under the following cost assumptions:

a. First-in, first-out (FIFO)
b. Last-in, first-out (LIFO)
c. Average cost (weighted average)
d. Specific identification

P 6-18 The following data relate to inventory for the year ended December 31, 2011. A physical inventory on December 31, 2011, indicates that 600 units are on hand and that they came from the July 1 purchase.

Date	Description	Number of Units	Cost per Unit	Total Cost
January 1	Beginning inventory	1,000	$4.00	$ 4,000
February 20	Purchase	800	4.50	3,600
April 1	Purchase	900	4.75	4,275
July 1	Purchase	700	5.00	3,500
October 22	Purchase	500	4.90	2,450
December 10	Purchase	500	5.00	2,500
		4,400		$20,325

Required Compute the cost of goods sold for the year ended December 31, 2011, and the ending inventory under the following cost assumptions:

a. First-in, first-out (FIFO)
b. Last-in, first-out (LIFO)
c. Average cost (weighted average)
d. Specific identification

P 6-19 J.A. Appliance Company has supplied you with the following data regarding working capital and sales for the years 2011, 2010, and 2009.

	2011	2010	2009
Working capital	$270,000	$260,000	$240,000
Sales	$650,000	$600,000	$500,000
Industry average for the ratio sales to working capital	4.10 times	4.05 times	4.00 times

Required

a. Compute the sales to working capital ratio for each year.
b. Comment on the sales to working capital ratio for J.A. Appliance in relation to the industry average and what this may indicate.

P 6-20 Depoole Company manufactures industrial products and employs a calendar year for financial reporting purposes. Items (a) through (e) present several of Depoole's transactions during 2011. The total of cash equivalents, marketable securities, and net receivables exceeded total current liabilities both before and after each transaction described. Depoole had positive profits in 2011 and a credit balance throughout 2011 in its retained earnings account.

Required Answer the following multiple-choice questions:

a. Payment of a trade account payable of $64,500 would

   1. Increase the current ratio, but the acid-test ratio would not be affected.
   2. Increase the acid-test ratio, but the current ratio would not be affected.
   3. Increase both the current and acid-test ratios.
   4. Decrease both the current and acid-test ratios.
   5. Have no effect on the current and acid-test ratios.

b. The purchase of raw materials for $85,000 on open account would

   1. Increase the current ratio.
   2. Decrease the current ratio.
   3. Increase net working capital.
   4. Decrease net working capital.
   5. Increase both the current ratio and net working capital.

c. The collection of a current accounts receivable of $29,000 would

   1. Increase the current ratio.
   2. Decrease the current ratio.
   3. Increase the acid-test ratio.
   4. Decrease the acid-test ratio.
   5. Not affect the current or acid-test ratios.

d. Obsolete inventory of $125,000 was written off during 2009. This would

   1. Decrease the acid-test ratio.
   2. Increase the acid-test ratio.
   3. Increase net working capital.
   4. Decrease the current ratio.
   5. Decrease both the current and acid-test ratios.

e. The early liquidation of a long-term note with cash would

   1. Affect the current ratio to a greater degree than the acid-test ratio.
   2. Affect the acid-test ratio to a greater degree than the current ratio.
   3. Affect the current and acid-test ratios to the same degree.
   4. Affect the current ratio, but not the acid-test ratio.
   5. Affect the acid-test ratio, but not the current ratio.

Source: Adapted from past CMA Examinations. Used by Permission of The Institute of Certified Management Accountants.

(CMA Adapted)

P 6-21 Information from Greg Company's balance sheet follows:

Current assets:	
Cash	$ 2,100,000
Marketable securities	7,200,000
Accounts receivable	50,500,000
Inventories	65,000,000
Prepaid expenses	1,000,000
Total current assets	$125,800,000
Current liabilities:	
Notes payable	$ 1,400,000
Accounts payable	18,000,000
Accrued expenses	11,000,000
Income taxes payable	600,000
Payments due within one year on long-term debt	3,000,000
Total current liabilities	$ 34,000,000

Required Answer the following multiple-choice questions:

a. What is the acid-test ratio for Greg Company?

1. 1.60
2. 1.76
3. 1.90
4. 2.20

b. What is the effect of the collection of accounts receivable on the current ratio and net working capital, respectively?

	Current Ratio	Net Working Capital
1.	No effect	No effect
2.	Increase	Increase
3.	Increase	No effect
4.	No effect	Increase

P 6-22 The following data apply to items (a) and (b). Mr. Sparks, the owner of School Supplies, Inc., wants to maintain control over accounts receivable. He understands that accounts receivable turnover will give a good indication of how well receivables are being managed. School Supplies, Inc., does 70% of its business during June, July, and August. The terms of sale are 2/10, net/60.

Net sales for the year ended December 31, 2011, and receivables balances follow:

Net sales	$1,500,000
Receivables, less allowance for doubtful accounts of $8,000 at January 1, 2011	72,000
Receivables, less allowance for doubtful accounts of $10,000 at December 31, 2011	60,000

Required Answer the following multiple-choice questions:

a. The average accounts receivable turnover calculated from the previous data is

1. 20.0 times.
2. 25.0 times.
3. 22.7 times.
4. 18.75 times.
5. 20.8 times.

b. The average accounts receivable turnover computed for School Supplies, Inc., in item (a) is

1. Representative for the entire year.
2. Overstated.
3. Understated.

Source: Adapted from past CMA Examinations. Used by Permission of The Institute of Certified Management Accountants.

(CMA Adapted)

P 6-23 Items (a) through (d) are based on the following information:

SHARKEY CORPORATION
Selected Financial Data

	As of December 31,	
	2011	2010
Cash	$ 8,000	$ 60,000
Marketable securities	32,000	8,000
Accounts receivable	40,000	110,000
Inventory	80,000	140,000
Net property, plant, and equipment	240,000	280,000
Accounts payable	60,000	100,000
Short-term notes payable	30,000	50,000
Cash sales	1,500,000	1,400,000
Credit sales	600,000	900,000
Cost of goods sold	1,260,000	1,403,000

Required Answer the following multiple-choice questions:

a. Sharkey's acid-test ratio as of December 31, 2011, is

1. 0.63.
2. 0.70.
3. 0.89.
4. 0.99.

b. Sharkey's receivables turnover for 2011 is

1. 8 times.
2. 6 times.
3. 12 times.
4. 14 times.

c. Sharkey's inventory turnover for 2011 is

1. 11.45 times.
2. 10.50 times.
3. 9.85 times.
4. 8.45 times.

d. Sharkey's current ratio at December 31, 2011, is

1. 1.40.
2. 2.60.
3. 1.90.
4. 1.78.

e. If current assets exceed current liabilities, payments to creditors made on the last day of the year will

1. Decrease current ratio.
2. Increase current ratio.
3. Decrease working capital.
4. Increase working capital.

P 6-24

Required Answer the following multiple-choice questions:

a. A company's current ratio is 2.2 to 1 and quick (acid-test) ratio is 1.0 to 1 at the beginning of the year. At the end of the year, the company has a current ratio of 2.5 to 1 and a quick ratio of 0.8 to 1. Which of the following could help explain the divergence in the ratios from the beginning to the end of the year?

(*continued*)

(**P 6-24** CONTINUED)

1. An increase in inventory levels during the current year.
2. An increase in credit sales in relationship to cash sales.
3. An increase in the use of trade payables during the current year.
4. An increase in the collection rate of accounts receivable.
5. The sale of marketable securities at a price below cost.

b. If, just prior to a period of rising prices, a company changed its inventory measurement method from FIFO to LIFO, the effect in the next period would be to

1. Increase both the current ratio and inventory turnover.
2. Decrease both the current ratio and inventory turnover.
3. Increase the current ratio and decrease inventory turnover.
4. Decrease the current ratio and increase inventory turnover.
5. Leave the current ratio and inventory turnover unchanged.

c. Selected year-end data for Bayer Company are as follows:

Current liabilities	$600,000
Acid-test ratio	2.5
Current ratio	3.0
Cost of sales	$500,000

Bayer Company's inventory turnover based on these year-end data is

1. 1.20.
2. 2.40.
3. 1.67.
4. Some amount other than those given.
5. Not determinable from the data given.

d. If a firm has a high current ratio but a low acid-test ratio, one can conclude that

1. The firm has a large outstanding accounts receivable balance.
2. The firm has a large investment in inventory.
3. The firm has a large amount of current liabilities.
4. The cash ratio is extremely high.
5. The two ratios must be recalculated because both conditions cannot occur simultaneously.

e. Investment instruments used to invest temporarily idle cash balances should have which of the following characteristics?

1. High expected return, low marketability, and a short term to maturity.
2. High expected return, readily marketable, and no maturity date.
3. Low default risk, low marketability, and a short term to maturity.
4. Low default risk, readily marketable, and a long term to maturity.
5. Low default risk, readily marketable, and a short term to maturity.

f. The primary objective in the management of accounts receivable is

1. To achieve a combination of sales volume, bad-debt experience, and receivables turnover that maximizes the profits of the corporation.
2. To realize no bad debts because of the opportunity cost involved.
3. To provide the treasurer of the corporation with sufficient cash to pay the company's bills on time.
4. To coordinate the activities of manufacturing, marketing, and financing so that the corporation can maximize its profits.
5. To allow the most liberal credit acceptance policy because increased sales mean increased profits.

g. A firm requires short-term funds to cover payroll expenses. These funds can come from

1. Trade credit.
2. Collections of receivables.
3. Bank loans.

4. Delayed payments of accounts payable.
5. All of the above.

Source: Adapted from past CMA Examinations. Used by Permission of The Institute of Certified Management Accountants.

(CMA Adapted)

P 6-25 Consecutive five-year balance sheets and income statements of Anne Gibson Corporation follow:

ANNE GIBSON CORPORATION
Balance Sheet
December 31, 2007 through December 31, 2011

(Dollars in thousands)	2011	2010	2009	2008	2007
Assets:					
Current assets					
Cash	$ 47,200	$ 46,000	$ 45,000	$ 44,000	$ 43,000
Marketable securities	2,000	2,500	3,000	3,000	3,000
Accounts receivable, less allowance of $1,000, December 31, 2011; $900, December 31, 2010; $900, December 31, 2009; $800, December 31, 2008; $1,200, December 31, 2007	131,000	128,000	127,000	126,000	125,000
Inventories	122,000	124,000	126,000	127,000	125,000
Prepaid expenses	3,000	2,500	2,000	1,000	1,000
Total current assets	305,200	303,000	303,000	301,000	297,000
Property, plant and equipment, net	240,000	239,000	238,000	237,500	234,000
Other assets	10,000	8,000	7,000	6,500	7,000
Total assets	$555,200	$550,000	$548,000	$545,000	$538,000
Liabilities and stockholders' equity:					
Current liabilities					
Accounts payable	$ 72,000	$ 73,000	$ 75,000	$ 76,000	$ 78,500
Accrued compensation	26,000	25,000	25,500	26,000	26,000
Income taxes	11,500	12,000	13,000	12,500	11,000
Total current liabilities	109,500	110,000	113,500	114,500	115,500
Long-term debt	68,000	60,000	58,000	60,000	62,000
Deferred income taxes	25,000	24,000	23,000	22,000	21,000
Stockholders' equity	352,700	356,000	353,500	348,500	339,500
Total liabilities and stockholders' equity	$555,200	$550,000	$548,000	$545,000	$538,000

ANNE GIBSON CORPORATION
Statement of Earnings
For Years Ended December 31, 2007–2011

(In thousands, except per share)	2011	2010	2009	2008	2007
Net sales	$880,000	$910,000	$840,000	$825,000	$820,000
Cost of goods sold	740,000	760,000	704,000	695,000	692,000
Gross profit	140,000	150,000	136,000	130,000	128,000
Selling and administrative expense	53,000	52,000	50,000	49,800	49,000
Interest expense	6,700	5,900	5,800	5,900	6,000
Earnings from continuing operations before income taxes	80,300	92,100	80,200	74,300	73,000
Income taxes	26,000	27,500	28,000	23,000	22,500
Net earnings	$ 54,300	$ 64,600	$ 52,200	$ 51,300	$ 50,500
Earnings per share	$ 1.40	$ 1.65	$ 1.38	$ 1.36	$ 1.33

(continued)

(**P 6-25** CONTINUED)

Required

a. Using year-end balance sheet figures, compute the following for the maximum number of years, based on the available data:

1. Days' sales in receivables
2. Accounts receivable turnover
3. Accounts receivable turnover in days
4. Days' sales in inventory
5. Inventory turnover
6. Inventory turnover in days
7. Operating cycle
8. Working capital
9. Current ratio
10. Acid-test ratio
11. Cash ratio
12. Sales to working capital

b. Using average balance sheet figures, as suggested in the chapter, compute the following for the maximum number of years, based on the available data:

1. Days' sales in receivables
2. Accounts receivable turnover
3. Accounts receivable turnover in days
4. Days' sales in inventory
5. Inventory turnover
6. Inventory turnover in days
7. Operating cycle
8. Working capital
9. Current ratio
10. Acid-test ratio
11. Cash ratio
12. Sales to working capital

c. Comment on trends indicated in short-term liquidity.

P 6-26 Allowance for Uncollectible Accounts—Ethics vs. Conservatism

To aid in determining the balance for the allowance for uncollectible accounts, an aging schedule is often prepared. The Arrow Company prepared the following aging schedule for December 31, 2011:

ARROW COMPANY
Aging Schedule of Accounts Receivable

Age of Accounts	Receivable Balance	Estimate Percent Uncollectible	Estimated Uncollectible Accounts
Current	$120,000	1.5%	$1,800
1–30 days past due	40,000	2.0	800
31–60 days past due	30,000	3.0	900
61–90 days past due	20,000	4.0	800
Over 90 days past due	25,000	7.0	1,750
Total	$235,000		$6,050

The current balance in allowance for uncollectible accounts is $2,000. The president of Arrow Company directs that the allowance be adjusted to $12,000. His reasoning is that 2011 has been a bad year for profits. Additional expenses this year will hardly be noticed, and this will help profits in future years.

Required

a. 1. If the allowance for uncollectible accounts is adjusted to $6,050, how much will this add to expense for 2011?
   2. If the allowance for uncollectible accounts is adjusted to $12,000, how much will this add to expense for 2011?

b. Is the president's direction an example of conservatism or unethical? Comment.

P 6-27 Accounts Receivable—Note Receivable—Ethics

Eric Page, the CEO of Marvick Enterprises, has been concerned with the firm's days' sales in receivables, which are running substantially higher than the past. He directs the CFO to get on top of the situation and reduce days' sales in receivables.

The CFO reviews the receivables and finds that the problem is substantially with one customer that owes $10 million to Marvick Enterprises that was 120 days old. The CFO contacts the customer who informs him that they had a temporary liquidity problem relating to a storm that disrupted the business of several of their customers.

The CFO agrees to help out by converting the receivable to a one-year note, paying 6%. This should give the customer adequate time and result in additional revenue for Marvick Enterprises. The customer agrees to those terms and signs the note.

Required

a. Will the substitution of the note receivable for the account receivable reduce days' sales in receivable?
b. Will the substitution of the note receivable for the account receivable improve the liquidity of Marvick Enterprises?
c. Do you consider this situation to be ethical? Comment.

Cases

CASE 6-1 STRENGTH OF STEEL

AK STEEL HOLDING CORPORATION*
CONSOLIDATED BALANCE SHEETS
December 31, 2010 and 2009
(dollars in millions, except per share amounts)

	2010	2009
ASSETS		
Current Assets:		
Cash and cash equivalents	$ 216.8	$ 461.7
Accounts receivable, net	482.8	463.1
Inventories, net	448.7	416.7
Deferred tax asset, current	225.7	223.9
Other current assets	30.1	64.7
Total Current Assets	1,404.1	1,630.1
Property, Plant and Equipment	5,668.2	5,385.1
Accumulated depreciation	(3,635.0)	(3,409.1)
Property, Plant and Equipment, net	2,033.2	1,976.0
Other Non-current Assets:		
Investment in AFSG Holdings, Inc.	55.6	55.6
Other investments	57.0	52.1
Goodwill	37.1	37.1
Other intangible assets	0.2	0.2

(*continued*)

*"AK Steel Corporation ("AK Holding") is a corporation formed under the laws of Delaware in 1993 and is a fully-integrated producer of flat-rolled carbon, stainless and electrical steels and tubular products through its wholly-owned subsidiary." 10-K

Source: AK Steel Holding Corporation Consolidated Balance Sheets 2010 10-K

(CASE 6-1 CONTINUED)	2010	2009
Other Non-current Assets: *(continued)*		
Deferred tax asset, non-current	581.5	514.7
Other non-current assets	19.9	8.9
Total Other Non-current Assets	751.3	668.6
TOTAL ASSETS	$ 4,188.6	$ 4,274.7
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$ 553.1	$ 438.9
Accrued liabilities	145.0	157.0
Current portion of long-term debt	0.7	0.7
Current portion of pension and other postretirement benefit obligations	145.7	144.1
Total Current Liabilities	844.5	740.7
Non-current Liabilities:		
Long-term debt	650.6	605.8
Pension and other postretirement benefit obligations	1,706.0	1,856.2
Other non-current liabilities	346.4	191.9
Total Non-current Liabilities	2,703	2,653.9
TOTAL LIABILITIES	3,547.5	3,394.6
Commitments and Contingencies (see Note 8)		
Stockholders' Equity:		
Preferred stock, authorized 25,000,000 shares	—	—
Common stock, authorized 200,000,000 shares of $.01 par value each; issued 2010, 122,829,975 shares; 2009, 121,881,816 shares; outstanding 2010, 109,986,790 shares; 2009, 109,394,455 shares	1.2	1.2
Additional paid-in capital	1,909.4	1,911.4
Treasury stock, common shares at cost, 2010, 12,843,185; 2009, 12,487,361 shares	(170.1)	(162.2)
Accumulated deficit	(1,188.4)	(1,037.5)
Accumulated other comprehensive income	92.6	167.9
Total AK Steel Holding Corporations Stockholders' Equity	644.7	880.8
Noncontrolling interest	(3.6)	(0.7)
TOTAL STOCKHOLDERS' EQUITY	641.1	880.1
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 4,188.6	$ 4,274.7

AK STEEL HOLDING CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (In Part)
(dollars in millions, except per share amounts)

1. Summary of Significant Accounting Policies (In Part)

Inventories: Inventories are valued at the lower of cost or market. The cost of the majority of inventories is measured on the last in, first out ("LIFO") method. Other inventories are measured principally at average cost and consist mostly of foreign inventories and certain raw materials.

	2010	2009
Inventories on LIFO:		
Finished and semi-finished	$ 679.8	$ 597.4
Raw materials and supplies	265.0	205.5
Adjustment to state inventories at LIFO value	(514.2)	(405.2)
Total	430.6	397.7
Other inventories	18.1	19.0
Total inventories	$ 448.7	$ 416.7

During 2010, 2009 and 2008, liquidation of LIFO layers generated income of $13.0, $96.8 and $181.9, respectively.

Required

a. What is the working capital at the end of 2010?
b. What is the balance in the LIFO reserve account at the end of 2010? Describe this account.
c. If the LIFO reserve account was added to the inventory at LIFO, what would be the resulting inventory number at the end of 2010? Which inventory amount do you consider to be more realistic?
d. Does the use of LIFO or FIFO produce higher, lower, or the same income during (1) price increases; (2) price decreases; and (3) constant prices? (Assume no decrease or increase in inventory quantity).
e. Does the use of LIFO or FIFO produce higher, lower, or the same amount of cash flow during (1) price increases; (2) price decreases; and (3) constant costs? Answer the question for both pretax cash flows and after-tax cash flows. (Assume no decrease or increase in inventory quantity).
f. Assume that the company purchased inventory on the last day of the year, beginning inventory equaled ending inventory, and inventory records for the item purchases were maintained periodically on the LIFO basis. Would that purchase be included on the income statement or the balance sheet at year-end?
g. Explain how liquidation of LIFO layers generates income.

CASE 6-2 RISING PRICES, A TIME TO SWITCH OFF LIFO?

The following information was taken directly from the annual report of a firm that wishes to remain anonymous. (The dates have been changed.)

FINANCIAL SUMMARY

Effects of LIFO Accounting

For a number of years, the corporation has used the last-in, first-out (LIFO) method of accounting for its steel inventories. In periods of extended inflation, coupled with uncertain supplies of raw materials from foreign sources, and rapid increases and fluctuations in prices of raw materials such as nickel and chrome nickel scrap, earnings can be affected unrealistically for any given year.

Because of these factors, the corporation will apply to the Internal Revenue Service for permission to discontinue using the LIFO method of accounting for valuing those inventories for which this method has been used. If such application is granted, the LIFO reserve at December 31, 2011, of $12,300,000 would be eliminated, which would require a provision for income taxes of approximately $6,150,000. The corporation will also seek permission to pay the increased taxes over a 10-year period. If the corporation had not used the LIFO method of accounting during 2010, net earnings for the year would have been increased by approximately $1,500,000.

The 2011 annual report also disclosed the following:

	2011	2010
1. Sales and revenues	$536,467,782	$487,886,449
2. Earnings per common share	$3.44	$3.58

Required

a. The corporation indicates that earnings can be affected unrealistically by rapid increases and fluctuations in prices when using LIFO. Comment.
b. How much taxes will need to be paid on past earnings from the switch from LIFO? How will the switch from LIFO influence taxes in the future?
c. How will a switch from LIFO affect 2011 profits?
d. How will a switch from LIFO affect future profits?
e. How will a switch from LIFO affect 2011 cash flow?
f. How will a switch from LIFO affect future cash flow?
g. Speculate on the real reason that the corporation wishes to switch from LIFO.

CASE 6-3 IMAGING

Eastman Kodak Company*
CONSOLIDATED STATEMENT OF OPERATIONS

(in millions, except per share data)	For the Year Ended December 31, 2010	2009	2008
Net sales			
Products	$ 5,507	$ 6,323	$ 8,130
Services	776	788	793
Licensing & royalties	904	495	493
Total net sales	$ 7,187	$ 7,606	$ 9,416
Cost of sales			
Products	$ 4,638	$ 5,243	$ 6,647
Services	598	595	600
Total cost of sales	$ 5,236	$ 5,838	$ 7,247
Gross profit	$ 1,951	$ 1,768	$ 2,169
Selling, general and administrative expenses	1,277	1,302	1,606
Research and development costs	321	356	478
Restructuring costs, rationalization and other	70	226	140
Other operating expenses (income), net	619	(88)	766
Loss from continuing operations before interest expense, other income (charges), net and income taxes	(336)	(28)	(821)
Interest expense	149	119	108
Loss on early extinguishment of debt, net	102	—	—
Other income (charges), net	26	30	55
Loss from continuing operations before income taxes	(561)	(117)	(874)
Provision (benefit) for income taxes	114	115	(147)
Loss from continuing operations	(675)	(232)	(727)
(Loss) earnings from discontinued operations, net of income taxes	(12)	17	285
Extraordinary item, net of tax	—	6	—
NET LOSS	(687)	(209)	(442)
Less: Net earnings attributable to noncontrolling interests	—	(1)	—
NET LOSS ATTRIBUTABLE TO EASTMAN KODAK COMPANY	$ (687)	$ (210)	$ (442)
Basic and diluted net (loss) earnings per share attributable to Eastman Kodak Company common shareholders:			
Continuing operations	$ (2.51)	$ (0.87)	$ (2.58)
Discontinued operations	(0.05)	0.07	1.01
Extraordinary item	—	0.02	—
Total	$ (2.56)	$ (0.78)	$ (1.57)

*"Eastman Kodak Company... helps consumers, businesses, and creative professionals unleash the power of pictures and printing to enrich their lives." 10-K

Eastman Kodak Company
CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(In millions, except share and per share data)	As of December 31, 2010	2009
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 1,624	$ 2,024
Receivables, net	1,259	1,395
Inventories, net	696	679
Deferred income taxes	120	121
Other current assets	100	84
Total current assets	3,799	4,303

(continued)

Source: Eastman Kodak Company 2010 10-K

(In millions, except share and per share data)	As of December 31, 2010	2009
Property, plant and equipment, net	1,037	1,254
Goodwill	294	907
Other long-term assets	1,109	1,227
TOTAL ASSETS	$ 6,239	$ 7,691
LIABILITIES AND EQUITY		
CURRENT LIABILITIES		
Accounts payable, trade	$ 959	$ 919
Short-term borrowings and current portion of long-term debt	50	62
Accrued income taxes	343	23
Other current liabilities	1,481	1,892
Total current liabilities	2,833	2,896
Long-term debt, net of current portion	1,195	1,129
Pension and other postretirement liabilities	2,661	2,694
Other long-term liabilities	625	1,005
Total liabilities	7,314	7,724
Commitments and Contingencies (Note 10)		
EQUITY (DEFICIT)		
Common stock, $2.50 par value, 950,000,000 shares authorized; 391,292,760 shares issued as of December 31, 2010 and 2009; 268,898,978 and 268,630,514 shares outstanding as of December 31, 2010 and 2009	978	978
Additional paid in capital	1,105	1,093
Retained earnings	4,969	5,676
Accumulated other comprehensive (loss)	(2,135)	(1,760)
	4,917	5,987
Treasury stock, at cost; 122,393,782 shares as of December 31, 2010 and 122,662,246 shares as of December 31, 2009	(5,994)	(6,022)
Total Eastman Kodak Company shareholders' (deficit) equity	(1,077)	(35)
Noncontrolling interests	2	2
Total (deficit) equity	(1,075)	(33)
TOTAL LIABILITIES AND EQUITY (DEFICIT)	$ 6,239	$ 7,691

Eastman Kodak Company

Notes to Financial Statements (In Part)

NOTE 2: RECEIVABLES, NET

(In millions)	As of December 31, 2010	2009
Trade receivables	$1,137	$1,238
Miscellaneous receivables	122	157
Total (net of allowances of $77 and $98 as of December 31, 2010 and 2009, respectively)	$1,259	$1,395

Approximately $224 million and $218 million of the total trade receivable amounts as of December 31, 2010 and 2009, respectively, are expected to be settled through customer deductions in lieu of cash payments. Such deductions represent rebates owed to the customer and are included in other current liabilities in the accompanying Consolidated Statement of Financial Position at each respective balance sheet date.

(*continued*)

(CASE 6-3 CONTINUED)

NOTE 7: OTHER CURRENT LIABILITIES

	As of December 31,	
(In millions)	2010	2009
Accrued employment-related liabilities	$ 420	$ 501
Accrued customer rebates, advertising and promotional expenses	322	369
Deferred revenue	178	275
Accrued restructuring liabilities	42	95
Other	519	652
Total	$1,481	$1,892

The other component above consists of other miscellaneous current liabilities that, individually, are less than 5% of the total current liabilities component within the Consolidated Statement of Financial Position, and therefore, have been aggregated in accordance with Regulation S-X.

NOTE 8: SHORT-TERM BORROWINGS AND LONG-TERM DEBT (In Part)

SHORT-TERM BORROWINGS AND CURRENT PORTION OF LONG-TERM DEBT

The Company's current portion of long-term debt was $50 million and $62 million as of December 31, 2010 and 2009, respectively. There were no amounts outstanding under short-term bank borrowings as of December 31, 2010 and 2009.

Required

a. Based on these data, calculate the following for 2010 and 2009:
   1. Days' sales in receivables (use trade receivables)
   2. Accounts receivable turnover (use gross trade receivables at year-end)
   3. Days' sales in inventory
   4. Inventory turnover (use year-end inventory)
   5. Working capital
   6. Current ratio
   7. Acid-test ratio
b. Comment on each ratio individually
c. Why are portions of long-term debt included in short-term borrowings?
d. Prepare a vertical common-size analysis for the balance sheets using 2010 and 2009. (Use total assets as the base.)
e. Comment on the vertical common-size analysis

CASE 6-4 TECHNOLOGY

Consolidated Statement of Income
3M Company and Subsidiaries*
Years ended December 31

(Millions, except per share amounts)	2010	2009	2008
Net sales	$26,662	$23,123	$25,269
Operating expenses			
Cost of sales	13,831	12,109	13,379
Selling, general and administrative expenses	5,479	4,907	5,245

(*continued*)

*"3M is a diversified technology company with a global presence in the following businesses: Industrial and Transportation; Health Care; Display and Graphics; Consumer and Office; Safety, Security and Protection Services; and Electro and Communications. 3M is among the leading manufacturers of products for many of the markets it serves. Most 3M products involve expertise in product development, manufacturing and marketing, and are subject to competition from products manufactured and sold by other technologically oriented companies." 10-K
Source: 3M Company and Subsidiaries 2010 10-K

(Millions, except per share amounts)	2010	2009	2008
Research, development and related expenses	1,434	1,293	1,404
Loss from sale of business	—	—	23
Total operating expenses	20,744	18,309	20,051
Operating income	5,918	4,814	5,218
Interest expense and income			
Interest expense	201	219	215
Interest income	(38)	(37)	(105)
Total interest expense (income)	163	182	110
Income before income taxes	5,755	4,632	5,108
Provision for income taxes	1,592	1,388	1,588
Net income including noncontrolling	$ 4,163	$ 3,244	$ 3,520
Less: Net income attributable to noncontrolling assets	78	51	60
Net income attributable to 3M	$ 4,085	3,193	3,460
Weighted average 3M common shares outstanding – basic	713.7	700.5	699.2
Earnings per share attributable to 3M common shareholders – basic	5.72	4.56	4.95
Weighted average 3M common shares outstanding – diluted	$ 725.5	$ 706.7	$ 707.2
Earnings per share attributable to 3M common shareholders – basic	5.63	4.52	4.89
Cash dividends paid per 3M common share	$ 2.10	$ 2.04	$ 2.00

Consolidated Balance sheet
3M Company and Subsidiaries
At December 31

(Dollars in millions, except per share amount)	2010	2009
Assets		
Current Assets:		
Cash and cash equivalents	$ 3,377	$ 3,040
Marketable securities – current	1,101	744
Accounts receivable – net of allowances of $98 and $109	3,615	3,250
Inventories		
Finished goods	1,476	1,255
Work in progress	950	815
Raw materials and supplies	729	569
Total inventories	3,155	2,639
Other current assets	967	1,122
Total current assets	12,215	10,795
Marketable securities – non current	540	825
Investments	146	103
Property, plant and equipment	20,253	19,440
Less: Accumulated Depreciation	(12,974)	(12,440)
Property, plant and equipment – net	7,279	7,000
Goodwill	6,820	5,832
Intangible assets – net	1,820	1,342
Prepaid pension benefits	74	78
Other assets	1,262	1,275
Total assets	$ 30,156	$ 27,250
Liabilities		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 1,269	$ 613
Accounts payable	1,662	1,453
Accrued payroll	778	680
Accrued income taxes	358	252

(*continued*)

(CASE 6-4 CONTINUED)

(Dollars in millions, except per share amount)	2010	2009
Other current liabilities	2,022	1,899
Total current liabilities	6,089	4,897
Long-term debt	4,183	5,097
Pension and postretirement benefits	2,013	2,227
Other liabilities	1,854	1,727
Total liabilities	$ 14,139	$ 13,948
Commitments and contingencies (Note 14)		
Equity		
3M Company shareholders' equity:		
Common stock, par value $.01 per share	$ 9	$ 9
Shares outstanding – 2010: 711,977,608		
Shares outstanding – 2009: 710,599,119		
Additional paid-in capital	3,468	3,153
Retained earnings	25,995	23,753
Treasury stock	(10,266)	(10,397)
Accumulated other comprehensive income (loss)	(3,543)	(3,754)
Total 3M Company shareholders' equity	15,663	12,764
Noncontrolling interest	354	538
Total equity	$ 16,017	$ 13,302
Total liabilities and equity	$ 30,156	$ 27,250

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (IN PART)

Note 1 Significant Accounting Policies (In Part)

Cash and Cash Equivalents: Cash and cash equivalents consist of cash and temporary investments with maturities of three months or less when acquired.

Inventories: Inventories are stated at the lower of cost or market, with cost generally determined on a first-in, first-out basis.

Accounts Receivable and Allowances: Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The Company maintains allowances for bad debts, cash discounts, product returns and various other items. The allowance for doubtful accounts and product returns is based on the best estimate of the amount of probable credit losses in existing accounts receivable and anticipated sales returns. The Company determines the allowances based on historical write-off experience by industry and regional economic data and historical sales returns. The Company reviews the allowance for doubtful accounts monthly. The Company does not have any significant off-balance-sheet credit exposure related to its customers.

Required

a. Based on these data, calculate the following for 2010 and 2009:
   1. Days' sales in receivables
   2. Accounts receivable turnover (gross receivables at year-end)
   3. Days' sales in inventory
   4. Inventory turnover (use inventory at year-end)
   5. Working capital
   6. Current ratio
   7. Acid-test ratio
b. Comment on each ratio individually
c. Comment on the apparent total liquidity

CASE 6-5 BOOMING RETAIL

The Grand retail firm reported the following financial data for the past several years:

	Year				
(Amounts in thousands)	5	4	3	2	1
Sales	$1,254,131	$1,210,918	$1,096,152	$979,458	$920,797
Net accounts receivable	419,731	368,267	312,776	272,450	230,427

The Grand retail firm had a decentralized credit operation allowing each store to administer its credit operation. Many stores provided installment plans allowing the customer up to 36 months to pay. Gross profits on installment sales were reflected in the financial statements in the period when the sales were made.

Required

a. Using Year 1 as the base, prepare horizontal common-size analysis for sales and net accounts receivable.
b. Compute the accounts receivable turnover for Years 2–5. (Use net accounts receivable.)
c. Would financial control of accounts receivable be more important with installment sales than with sales on 30-day credit? Comment.
d. Comment on what is apparently happening at The Grand retail firm.

Note: Data from an actual retail company.

CASE 6-6 GREETINGS

American Greetings*
CONSOLIDATED STATEMENTS OF OPERATIONS
Years ended February 28, 2011, 2010 and 2009
Thousands of dollars except share and per share amounts

	2011	2010	2009
Net sales	$ 1,560,213	$ 1,598,292	$ 1,646,399
Other revenue	32,355	37,566	44,339
Total revenue	1,592,568	1,635,858	1,690,738
Material, labor and other production costs	682,368	713,075	809,956
Selling, distribution and marketing expenses	478,227	507,960	618,899
Administrative and general expenses	260,476	276,031	226,317
Goodwill and other intangible assets impairment	—	—	290,166
Other operating income – net	(3,205)	(310)	(1,396)
Operating income (loss)	174,702	139,102	(253,204)
Interest expense	25,389	26,311	22,854
Interest income	(853)	(1,676)	(3,282)
Other non-operating (income) expense – net	(5,841)	(6,487)	2,157
Income (loss) before income tax expense (benefit)	156,007	120,954	(274,933)
Income tax expense (benefit)	68,989	39,380	(47,174)
(Loss) income from continuing operations			(227,759)
Net income (loss)	$ 87,018	$ 81,574	$ (227,759)
Earnings (loss) per share – basic	$ 2.18	$ 2.07	$ (4.89)
Earnings (loss) per share – assuming dilution	$ 2.11	$ 2.03	$ (4.89)
Average number of shares outstanding	39,982,784	39,467,811	46,543,780
Average number of shares outstanding – assuming dilution	41,244,903	40,159,651	46,543,780
Dividends declared per share	$ 0.56	$ 0.36	$ 0.60

*"Founded in 1906, American Greetings operates predominantly in a single industry: the design, manufacture and sale of everyday and seasonal greeting cards and other social expression products." 10-K

(*continued*)

Source: American Greetings 2010 10-K

(CASE 6-6 CONTINUED)

CONSOLIDATED STATEMENT OF FINANCIAL POSITION
February 28, 2011 and 2010
Thousands of dollars except share and per share amounts

	2011	2010
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	$ 215,838	$ 137,949
Trade accounts receivable, net	119,779	135,758
Inventories	179,730	163,956
Deferred and refundable income taxes	50,051	78,433
Assets held for sale	7,154	15,147
Prepaid expenses and other	128,372	148,048
Total current assets	700,924	679,291
GOODWILL	28,903	31,106
OTHER ASSETS	436,137	428,161
DEFERRED AND REFUNDABLE INCOME TAXES	124,789	148,210
PROPERTY, PLANT AND EQUIPMENT – NET	241,649	242,883
	$1,532,402	$1,529,651
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES		
Debt due within one year	$ —	$ 1,000
Accounts payable	87,105	95,434
Accrued liabilities	69,824	78,245
Accrued compensation and benefits	72,379	85,092
Income taxes payable	10,951	13,901
Other current liabilities	102,286	94,915
Total current liabilities	342,545	368,587
LONG-TERM DEBT	232,545	328,723
OTHER LIABILITIES	176,522	168,098
DEFERRED INCOME TAXES AND NONCURRENT INCOME TAXES PAYABLE	31,736	28,179
SHAREHOLDERS' EQUITY		
Common shares – par value $1 per share:		
Class A – 82,181,659 shares issued less 44,711,736 treasury shares in 2011 and 80,884,505 shares issued less 44,627,298 treasury shares in 2010	37,470	36,257
Class B – 6,066,092 shares issued less 3,128,841 treasure shares in 2011 and 6,066,092 shares issued less 2,843,190 treasury shares in 2010	2,937	3,223
Capital in excess of par value	492,048	461,076
Treasury stock	(952,206)	(946,724)
Accumulated other comprehensive loss	(2,346)	(29,815)
Retained earnings	1,171,008	1,112,047
Total shareholders' equity	748,911	636,064
	$1,532,402	$1,529,651

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (In Part)
Years ended February 28, 2011, 2010 and 2009
Thousands of dollars except per share amounts

NOTE 1 – SIGNIFICANT ACCOUNTING POLICIES (In Part)

Cash Equivalents: The Corporation considers all highly liquid instruments purchased with an original maturity of less than three months to be cash equivalents.

Allowance for Doubtful Accounts: The Corporation evaluates the collectibility of its accounts receivable based on a combination of factors. In circumstances where the Corporation is aware of a customer's inability to meet its financial obligations, a specific allowance for bad debts against amounts due is recorded to reduce the receivable to the amount the Corporation reasonably expects will be collected. In addition, the Corporation recognizes allowances for bad debts based on estimates developed by using standard quantitative measures incorporating historical write-offs. See Note 6 for further information.

Customer Allowances and Discounts: The Corporation offers certain of its customers allowances and discounts including cooperative advertising, rebates, marketing allowances and various other allowances and discounts. These amounts are recorded as reductions of gross accounts receivable or included in accrued liabilities and are recognized as reductions of net sales when earned. These amounts are earned by the customer as product is purchased from the Corporation and are recorded based on the terms of individual customer contracts. See Note 6 for further information.

Concentration of Credit Risks: The Corporation sells primarily to customers in the retail trade, including those in the mass merchandise, drug store, discount retailer, supermarket and other channels of distribution. These customers are located throughout the United States, Canada, the United Kingdom, Australia, New Zealand and Mexico. Net sales from continuing operations to the Corporation's five largest customers accounted for approximately 42%, 39% and 36% of total revenue in 2011, 2010 and 2009, respectively. Net sales to Wal-Mart Stores, Inc. and its subsidiaries accounted for approximately 15%, 14% and 15% of total revenue in 2011, 2010 and 2009, respectively. Net sales to Target Corporation accounted for approximately 14% and 13% of total revenue in 2011 and 2010, respectively, and less than 10% in 2009.

The Corporation conducts business based on periodic evaluations of its customers' financial condition and generally does not require collateral to secure their obligation to the Corporation. While the competitiveness of the retail industry presents an inherent uncertainty, the Corporation does not believe a significant risk of loss exists from a concentration of credit.

Inventories: Finished products, work in process and raw materials inventories are carried at the lower of cost or market. The last-in, first-out (LIFO) cost method is used for certain domestic inventories, which approximate 80% of the total pre-LIFO consolidated inventories at February 28, 2011 and 2010, respectively. International inventories and the remaining domestic inventories principally use the first-in, first-out (FIFO) method except for display material and factory supplies which are carried at average cost. The Corporation allocates fixed production overhead to inventory based on the normal capacity of the production facilities. Abnormal amounts of idle facility expense, freight, handling costs and wasted material are treated as a current period expense. See Note 7 for further information.

NOTE 6 – CUSTOMER ALLOWANCES AND DISCOUNTS

Trade accounts receivable are reported net of certain allowances and discounts. The most significant of these are as follows:

	February 28, 2011	February 28, 2010
Allowance for seasonal sales returns	$34,058	$ 36,443
Allowance for outdated products	8,264	10,438
Allowance for doubtful accounts	5,374	2,963
Allowance for cooperative advertising and marketing funds	25,631	24,061
Allowance for rebates	24,920	29,338
	$98,247	$103,243

(*continued*)

(CASE 6-6 CONTINUED)

Certain customer allowances and discounts are settled in cash. These accounts, primarily rebates, which are classified as "Accrued liabilities" on the Consolidated Statement of Financial Position, totaled $11,913 and $15,326 as of February 28, 2011 and 2010, respectively.

NOTE 7 – INVENTORIES

	February 28, 2011	February 28, 2010
Raw materials	$ 21,248	$ 18,609
Work in process	6,476	6,622
Finished products	212,056	194,283
	239,780	219,514
Less LIFO reserve	78,358	75,491
	161,422	144,023
Display material and factory supplies	18,308	19,933
	$179,730	$163,956

There were no material LIFO liquidations in 2011 and 2009. During 2010, inventory quantities declined resulting in the liquidation of LIFO inventory layers carried at lower costs compared with current year purchases. The income statement effect of such liquidation on material, labor and other production costs was approximately $13,000. Inventory held on location for retailers with SBT arrangements, which is included in finished products, totaled approximately $42,000 and $38,000 as of February 28, 2011 and 2010, respectively.

Required

a. Based on these data, calculate the following for 2011 and 2010:
   1. Days' sales in receivables
   2. Accounts receivable turnover (gross receivables at year-end)
   3. Days' sales in inventory
   4. Inventory turnover (use inventory at year-end)
   5. Working capital
   6. Current ratio
   7. Acid-test ratio
b. Comment on each ratio individually.
c. 1. Describe the individual allowance consideration.
   2. Are some of these allowance considerations normal for most companies?
d. What would be the inventory balance at February 28, 2011 if the LIFO reserve were removed?
e. Were there material LIFO liquidations in 2011, 2010 or 2009?
f. Comment on the apparent total liquidity.

CASE 6-7 LIFO – TAX, U.S. GAAP AND IFRS IMPLICATIONS

The LIFO method assumes that the costs of the latest items bought or produced are matched against current sales. Usually, this assumption materially improves the matching of current costs against current revenue.

In the United States, LIFO is accepted GAAP as it is in some other countries. IFRS does not allow LIFO.

LIFO is used in many industries in the United States. In some industries, 50% or more of the firms use LIFO.

Source: U.S. Securities and Exchange

For some United States companies, their LIFO reserve account is very material. Some companies with substantial LIFO reserves are as follows:

Company	LIFO Reserve	Financial Statement Date
Exxon Mobil Corp.	$21,300,000,000	12-31-2010
Caterpillar	2,575,000,000	12-31-2010
Deere & Co.	1,398,000,000	10-31-2010
Ford Motor Co.	865,000,000	12-31-2010
Kroger	827,000,000	1-29-2011
	$26,965,000,000	

In the United States, if LIFO is used for federal taxes, then it must be used for financial reporting. Many firms that use LIFO would likely not use LIFO except for this conformity requirement.

During periods of rising prices, the firm should benefit on taxes as long as the inventory does not decline. The tax benefit may be reduced or eliminated if inventory quantities decline and old lower costs are matched against current sales.

Required

a. If the United States firms adopt IFRS, what implications will this have for United States firms that use LIFO?
b. Assume that the United States tax rate is 40% including federal, state and local income taxes. What is the potential tax liability (in total) for the firms listed in this case?

CASE 6-8 SPECIALTY RETAILER – LIQUIDITY REVIEW

1. **Abercrombie & Fitch Co.**
(January 29, 2011 – 52-week; January 30, 2010 – 52-week; January 31, 2009 – 52-week)
"Abercrombie & Fitch Co. ("A&F"), a company incorporated in Delaware in 1996, through its subsidiaries (collectively, A&F and its subsidiaries are referred to as "Abercrombie & Fitch" or the "Company"), is a specialty retailer that operates stores and direct-to-consumer operations." 10-K

Source: Abercrombie & Fitch 2010 10-K

2. **Limited Brands, Inc.**
(January 29, 2011 – 52-week; January 30, 2010 – 52-week; January 31, 2009 – 52-week)
"We operate in the highly competitive specialty retail business. Founded in 1963 in Columbus, Ohio, we have evolved from an apparel-based specialty retailer to an approximately $10 billion segment leader focused on women's intimate and other apparel, beauty and personal care product categories that make customers feel sexy, sophisticated and forever young." 10-K

Source: Limited Brands 2010 10-K

3. **Gap, Inc.**
(January 29, 2011 – 52-week; January 30, 2010 – 52-week; January 31, 2009 – 52-week)
"The Gap, Inc. (the "Company," "we," and "our") was incorporated in the State of California in July 1969 and was reincorporated under the laws of the State of Delaware in May 1988. We are a global specialty retailer offering apparel, accessories, and personal care products for men, women, children, and babies under the Gap, Old Navy, Banana Republic, Piperlime, and Athleta brands." 10-K

Source: Gap Inc 2010 10-K

	Abercrombie & Fitch		Limited Brands, Inc.		GAP, Inc.	
Data Reviewed	2011	2010	2011	2010	2011	2010
Current ratio	2.56	2.73	1.72	2.46	1.87	2.19
Acid test	1.62	1.77	.91	1.53	.79	1.21

Required

a. For each company, indicate the trend in liquidity.
b. How would you rank these companies, considering liquidity?

CASE 6-9 EAT AT MY RESTAURANT – LIQUIDITY REVIEW

With this case, we review the liquidity of several restaurant companies. The restaurant companies reviewed and the year-end dates are as follows:

1. **Yum Brands, Inc.**
   (December 25, 2010; December 26, 2009)
   "YUM consist of six operating segments: KFC – U.S., Pizza Hut – U.S., Taco Bell – U.S. Long John Silver's ("LJS") – U.S. and A&W All American Food Restaurants ("A&W") – U.S., YUM Restaurants International ("YRI" or "International Division") and YUM Restaurants China ("China Division")." 10-K

   Source: Yum! Brands, Inc. and Subsidiaries 2010 10-K
2. **Panera Bread**
   (December 28, 2010; December 29, 2009)
   "Panera Bread Company and its subsidiaries, referred to as "Panera Bread," "Panera," the "Company," "we," "us," and "our," is a national bakery-café concept with 1,453 Company-owned and franchise-operated bakery-café locations in 40 states, the District of Columbia, and Ontario, Canada." 10-K

   Source: Panera Bread 2010 10-K
3. **Starbucks**
   (October 3, 2010; September 27, 2009)
   "Starbucks is the premier roaster and retailer of specialty coffee in the world, operating in more than 50 countries." 10-K

   Source: Starbucks 2010 10-K

	Yum Brands, Inc.		Panera Bread		Starbucks	
Data Reviewed	2010	2009	2010	2009	2010	2009
Current ratio	.94	.73	1.56	2.26	1.55	1.29
Acid test	.69	.36	1.27	1.93	.98	.59

Required

a. For each company, indicate the trend in liquidity
b. Give your opinion as to the relative liquidity of each of these companies. How would you rank these companies, considering liquidity?

WEB CASE THOMSON ONE *Business School Edition*

Please complete the Web case that covers material discussed in this chapter at www.cengagebrain.com. You'll be using Thomson ONE Business School Edition, a powerful tool that combines a full range of fundamental financial information, earnings estimates, market data, and source documents for 500 publicly traded companies.

TO THE NET CASE

1. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc."
   a. Under Company Name, enter "Quaker" (or under Ticker Symbol, enter "KWR"). Select the 10-K filed March 2, 2011.
      1. Copy the first sentence in the "Item 1. Business" section.
      2. Compute the current ratio for December 31, 2010 and 2009.
   b. Under Company Name, enter "Kroger Co" (or under Ticker Symbol, enter "KR"). In the Form Type box, enter "10–K." Select the 10-K filed March 29, 2011.
      1. Copy the first sentence in the "Item 1. Business" section.
      2. Compute the current ratio for January 29, 2011, and January 30, 2010.
   c. Consider the nature of the business of these companies. Comment on why Quaker has a higher current ratio than Kroger Co.

2. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Kroger Co" (or under Ticker Symbol, enter "KR"). Select the 10-K filed March 29, 2011.
   a. Copy the first sentence in the "Item 1. Business" section.
   b. Determine the net inventory balances at January 29, 2011.
   c. Determine the replacement cost of inventory at January 29, 2011.
   d. Comment on why the inventory balance is lower than replacement cost.
3. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Dynatronics Corp" (or under Ticker Symbol, enter "DYNT"). Select the 10-K SB filed September 22, 2010.
   a. Copy the third paragraph in the "Item 1. Business" section.
   b. What is the net trade receivable at June 30, 2010?
   c. What is the gross receivable at June 30, 2010?
   d. Describe the inventory method.
4. Go to the SEC site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "TASER International" (or under Ticker Symbol, enter "TASR"). Select the 10-K filed March 14, 2011.
   a. Copy the first two sentences in the "Item 1 Business" section.
   b. What is the net receivables at December 31, 2010?
   c. What is the gross receivables at December 31, 2010?
   d. Notes to Financial Statements (in Part)
      1. Organization and Summary of Significant Accounting Policies (in Part) Inventory (in Part): "Provisions are made to reduce potentially excess, obsolete, or slow-moving inventories to their net realizable value." What does management consider to arrive at the net realizable value?
   e. For December 31, 2010 and December 31, 2009, what percentage is "Cash and cash equivalents" in relation to total current assets and total assets. Why do they have this balance in "Cash and cash equivalents"?
5. Go to the SEC Web site (www.sec.gov). Under "Filings & Forms (EDGAR)," click on "Search for Company Filings." Click on "Company or Fund, etc." Under Company Name, enter "Dell Inc" (or under Ticker Symbol, enter "DELL"). Select the 10-K filed March 15, 2011.
   a. Copy the first two sentences in the "Item 1. Business" section.
   b. Speculate why inventories are relatively low in relation to accounts receivable, net.
   c. Speculate why accounts receivable, net is relatively low in relation to accounts payable.
   d. Speculate why the amounts in cash and cash equivalents and short-term investments are large in relation to total current assets.

Endnotes

1. *Accounting Research Bulletin No. 43,* "Restatement and Revision of Accounting Research Bulletins," 1953, Chapter 3, Section A, par. 4.
2. *Statement of Financial Accounting Standards No. 115,* "Accounting for Certain Investments in Debt and Equity Securities" (Financial Accounting Standards Board, Norwalk, CT: 1993).
3. *Opinions of the Accounting Principles Board No. 21,* "Interest on Receivables and Payables" (American Institute of Certified Public Accountants, New York: 1971), par. 11. .
4. *Statement of Financial Accounting Standards No. 5,* "Accounting for Contingencies" (Financial Accounting Standards Board, Stamford, CT: 1975), par. 8.
5. Committee on Accounting Procedure, American Institute of Certified Public Accountants, "Accounting Research and Terminology Bulletins" (American Institute of Certified Public Accountants, New York: 1961), p. 21.