CHAPTER 5 Using Financial Statement Information

KEY POINTS

The following key points are emphasized in this chapter:

- **Using financial accounting numbers to influence management decisions and predict future events.**
- **Five steps of financial statement analysis.**
- **Assessing the business environment.**
- **Assessing earnings quality and persistence.**
- **Analyzing financial statements.**
- **Difficulties involved in using annual report information to identify mispriced securities.**
- **Difficulties involved in using financial statements to compare the performance of companies operating in different countries.**

When a company reports its results, it had better beat the expectations of the analysts who follow that company, or look out, stock price! Network equipment maker Juniper Networks, Inc. (JNPR) represents a prime example. You would think that when JNPR reported an 8 percent jump in 2009 quarterly revenue and a 14 percent increase in profits, the stock price would soar. Not true. JNPR stock was actually off 13 percent, down to $14.77 per share. Why? It seems that reported earnings per share and revenue, even though lofty, didn't quite make the consensus analyst earnings prediction as compiled by Thomson First Call.

Earnings predictions are prepared regularly by analysts who closely follow companies, and they are compiled by groups like Thomson First Call and Nelsons. Stock prices react to those predictions, and when they are not met, stock prices drop. To achieve or beat these expectations, companies often tell analysts that earnings will be lower than they really believe, or sometimes they use accounting discretion to boost reported earnings. How do analysts make earnings predictions, and what role do financial statements play?

The information that appears in the financial statements is used in many ways by a variety of individuals and entities. Investors and creditors use it to evaluate company performance and to predict the amount and timing of earnings and the future cash flows (e.g., dividends and interest) associated with their investments. They also use financial information to influence and monitor the activities of management. As representatives of the shareholders, the boards of directors of many companies base executive compensation on various measures of income, while creditors protect their loan investments by writing debt covenants in terms of financial statement numbers. Public utilities use financial accounting numbers to set customer rates, and labor unions use such information to negotiate with management for higher wages and better working conditions. Credit-rating agencies, such as Standard & Poor's, Moody's, and Dun & Bradstreet, use financial statement information to determine credit ratings. Indeed, financial accounting information plays an important role in a number of different kinds of business decisions.

CONTROL AND PREDICTION

Financial accounting numbers are useful in two fundamental ways: (1) they help investors and creditors influence and monitor the business decisions of a company's managers, and (2) they help to predict a company's future earnings and cash flows.

Financial Accounting Numbers and Management Control

Investors and creditors, who provide a company with its capital, can direct and monitor the actions of its managers by requiring that their contracts be written in terms of financial accounting numbers. Shareholders have incentives to encourage management to act in ways that maximize future dividend payments and stock price appreciation. Since such returns depend on a company's earning power and long-term profitability, shareholders want management to make business decisions that maintain high levels of earning power. A common method used to attain such a goal is to base management's compensation on reported profits. Such compensation schemes, which are set by a company's board of directors, can lead to payments in the form of either cash or shares of stock. Exxon Mobil Corporation, for example, has implemented a management incentive program that pays eligible employees a percentage of the company's earnings

if net income in a given year exceeds 6 percent of invested capital (as defined in the bonus plan). These bonuses have been paid in both cash and shares of Exxon Mobil common stock.[1]

Creditors are also interested in protecting their investments by influencing the business decisions of management. They are concerned that companies may not be able to meet their loan obligations because company assets may have been (1) paid to the shareholders in the form of dividends or purchases of outstanding stock, (2) pledged to other creditors, or (3) mismanaged. To reduce the probability of such events, a creditor may restrict certain business decisions of managers as a condition of the loan. Such restrictions are written into the loan contract and expressed in terms of financial accounting numbers.

For example, when Alcoa entered into an eight-year, $600 million revolving credit agreement with a group of banks, it required that during the period of the loan (1) the current ratio (current assets divided by current liabilities) not be less than 1:1 and (2) a minimum working capital (current assets—current liabilities) of $500 million be maintained. In other debt covenants, The Pillsbury Company, part of General Mills, is restricted with respect to paying dividends and purchasing its own common stock, and Delta Air Lines' covenants restrict its ability to grant liens, incur or guarantee debt, and enter into flight equipment leases.

Financial Accounting Numbers as Prediction Aids

Financial accounting numbers report on past events. In and of themselves, they are neither predictions nor forecasts. However, to the extent that past events are indicative of the future, financial accounting numbers can be used to make predictions about a company's future earnings and cash flows. Financial statement numbers, for example, have been used in statistical models to predict bankruptcy with reasonable accuracy, and auditors often use such models to predict whether potential clients will remain in business. Indeed, the main objective of financial reporting, as stated by the Financial Accounting Standards Board, is "to help present and potential investors and creditors and other users in assessing the amount, timing, and uncertainty of *future* cash flows."[2]

Vonage provides communication services over the Internet. In February 2002 the company planned to raise funds by offering its stock for sale to the public for the first time. As reported in TheStreet.com, Vonage planned the public offering despite the fact that the company "has been losing money and plans to continue to do so." In the company's prospectus to potential investors, revenue growth is highlighted while the losses are explained by increases in marketing expenses.

Discuss why investors would be interested in buying a company that is growing but continues to lose money. What do financial accounting concepts such as profit and operating cash flow tell investors about a company's *future* prospects? Discuss what information in addition to the financial reports is needed for investment decisions.

1. It is unclear whether basing management compensation on accounting measures of profit serves to maximize the long-term earning power of major companies in the United States. Some contend that such compensation schemes encourage management to manipulate reported profits and to make operating, investing, and financing decisions that increase profits in the short run, at the expense of long-term profitability.

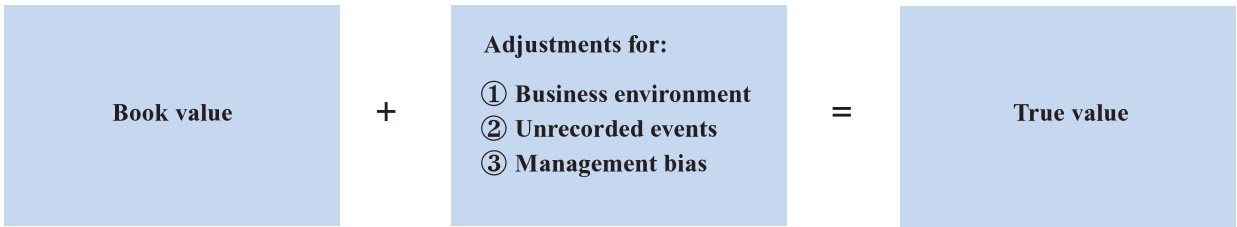
2. Financial Accounting Standards Board, "Objectives of Financial Reporting by Business Enterprises," *Statement of Financial Accounting Concepts No. 1* (Stamford, Conn., 1979).

FRAMEWORK FOR USING FINANCIAL STATEMENTS TO PREDICT FUTURE EARNINGS AND CASH FLOWS

Equity investors use financial information to predict future earnings and cash flows in their efforts to identify securities that will provide high returns. Creditors use financial information to predict whether companies can generate enough cash in the future to cover debt payments. Future cash flows are at the heart of a company's true value, which is of interest to both investors and creditors. The balance sheet provides a measure of a company's value at a given point in time—its book value (assets − liabilities). Unfortunately, book value is a far cry from true value or even the stock market's estimate of true value. As of December 31, 2008, for example, the book value of Yahoo! was $11.25 billion, while the total market price of its outstanding shares of stock was just under $17 billion!

As illustrated in Figure 5–1, reported book value and true value differ for three reasons: (1) the financial statements do not reflect the company's prospects within its business environment, (2) the financial statements do not reflect important unrecorded events, and (3) management prepares the reports in a biased manner.

FIGURE 5–1 Framework for financial statement analysis



Business Environment

Book value fails to reflect "true value" primarily because the financial statements are backward looking, and what really matters in the valuation of a company is its future prospects. What is the prognosis for the economy—good or bad—and how closely are the company's fortunes tied to swings in the overall economy? What is the future for the industry in which the company operates—is it growing or dying? What is the company's strategy for generating profits within the industry? Does it compete by providing innovative products and/or services or by controlling its costs? The answers to these questions are critical in assessing a company's true value, and backward-looking financial statements are of limited use in answering them. It is often stated that trying to manage a company using the financial statements is like trying to drive a car by looking in the rearview mirror. It works if the future is just like the past, but watch out if a big truck is stopped in front of you and there is no truck behind you!

It is not unusual for companies with little or no profit to have reasonably high stock prices. Amazon.com, for example, reported no profits in its early years of operation, yet supported an impressive stock price. Similarly, as noted in the beginning of the chapter with Juniper Networks, companies reporting increasing profits are sometimes punished by the stock market. Explain why stock prices do not necessarily follow profit reports.

Unrecorded Events

The financial statements also leave out important current and historical information, which is relevant to assessing true value. For example, estimates of the value of a company's human resources are not included in the balance sheet. For many companies, especially those in the fast-growing service sector, human capital is the most important asset—yet, the balance sheet contains no asset called human capital. How can one assess the value of a basketball team without assessing the value of its players? How does one value a law firm or public accounting firm without considering the value of its professional staff?

Similarly, most of the assets on the balance sheet are carried at historical cost, not current market prices, and there is much doubt about the usefulness of historical costs for decision-making purposes. Consider, for example, land purchased ten years ago for $1,000 that now can be sold for $10,000. Under U.S. GAAP the land is carried on the balance sheet at $1,000, even though $10,000 is likely the more useful number.

Under IFRS, in certain situations the land can be carried on the balance sheet at $10,000, its current market value.

It is also true that financial statements prepared according to U.S. GAAP ignore the effects of inflation and that they are not published in a timely manner. Normally, the annual reports of most U.S. companies are published several months after the balance sheet date, allowing many important—but unreported—transactions to occur in the meantime.

In May 2007, Rupert Murdoch's News Corporation made an unsolicited offer of $60 per share to purchase Dow Jones & Company, the publisher of the *Wall Street Journal*. At the time of the offer, shares of Dow Jones were trading on the New York Stock Exchange for a little over $36 per share. A review of the December 31, 2006, balance sheet of Dow Jones showed that the book value per share (shareholders' equity according to GAAP divided by the number of shares outstanding) was approximately $6 per share. Which valuation is correct—the market value as determined on the NYSE, the market valued as determined by an experienced investor, or the book value as determined by GAAP? Discuss why an investor would be willing to pay such a premium over the book value and the existing market value.

Management Bias

Finally, the financial statements are limited by management's bias. Managers are not inherently unethical, and they do not attempt at every opportunity to exploit the investors and creditors who provide the company's capital. It is in the manager's long-term best interest to report truthfully. However, it is well known that managers choose accounting methods and estimates that report the results of operations in ways that protect and further their interests. They are fully aware that the financial statements are used by outsiders to evaluate and influence their actions and that their future levels of wealth are often directly tied to financial accounting numbers. Such influence may come in the form of choosing a particular accounting method or estimate and/or any number of other subjective operating, investing, financing, and reporting decisions.

In a growing practice, many companies are including in their annual reports what they refer to as "pro forma" financial information. Such information is used to describe what the financial statements or key financial numbers would look like, for example, after a proposed merger or acquisition. While the Securities and Exchange Commission (SEC) recognizes that pro forma numbers can be useful, in an official 2004 SEC release, it cautioned investors because pro forma numbers are normally not prepared in conformance with generally accepted accounting principles (GAAP), and "under certain circumstances can mislead investors if it obscures GAAP results." Explain how pro forma numbers could be useful and why the SEC is cautioning investors.

ELEMENTS OF FINANCIAL STATEMENT ANALYSIS

Given that the use of financial statements for predicting future earnings and cash flows is limited due to the lack of forward-looking information, unrecorded events, and management bias, it is important that financial statement analysis address the following issues:

- Assessing the business environment.
- Reading and studying the financial statements and footnotes.
- Assessing earnings quality.
- Analyzing the financial statements.
- Predicting future earnings and/or cash flows.

In this chapter these issues are discussed in a given order, but keep in mind that different analysts use different methods. Indeed, financial statement analysis is an art, not a science, where judgment plays an extremely important role.

ASSESSING THE BUSINESS ENVIRONMENT

The analyst must first learn about the company, its industry, and how the company and industry relate to the overall economy. What is the nature of the company's operations, and what strategy is the company using to generate profits within its industry? What is the company's industry, who are the major players and the company's competitors, and is it easy or difficult for outside firms to enter the industry? What are the relationships between the company and its suppliers and customers, and who holds the bargaining power? Finally, when the overall economy booms or goes into recession, how are the company's sales and profits affected? How quickly do the company's sales and profits change when the indices of overall economic activity change? An astute analyst addresses these questions before reviewing the financial statements. The answers provide a forward-looking perspective on the company and create a useful context in which to interpret the financial statements. They also help the analyst to target key items in the financial statements for especially close examination.

One way to quickly gain a sense of a company's operations and how other experts view its future prospects is to access investment services, such as Moody's (moodys.com), Value Line (valueline.com), Dun & Bradstreet (smallbusiness.dnb.com), and Standard & Poor's (spglobal.com). These information sources provide extensive analyses of the operations and financial position of many companies, as well as ratings of the riskiness

of their outstanding debts. These ratings reflect a company's future prospects within its business environment and have a direct bearing on its ability to issue debt with reasonable terms.

Apple Computer, with both its iPhone and tablet computer iPad, charges customers a product price and a "data fee" (in conjunction with communications firm AT&T) to allow the device to connect to the Internet. Before the introduction of its latest products (dating back to the iPod), Apple had been more of a traditional hardware manufacturer, selling customers its Macintosh line of computers. With the newer personal electronic products, Apple provides a service in addition to the hardware product. What effect over time has this strategic shift had on the financial statements of Apple? Which arenas of the balance sheet, income statement, and statement of cash flows would be affected?

The *Wall Street Journal* reports almost daily the changes in a company's financial prospects and its credit ratings, which in turn affect the price of a company's stocks and bonds as well as its ability to raise additional funds. For example, a recent annual report of Hewlett-Packard states:

Standard & Poor's Ratings Services, Moody's Investors Service, and Fitch Ratings currently rate our senior unsecured long term debt A-, A3, and A and our short-term debt A-1, Prime-1, and F1, respectively. We do not have any rating downgrade triggers that would accelerate the maturity of a material amount of our debt. However, a downgrade in our credit rating would increase the cost of borrowings under our credit facilities. Also, a downgrade in our credit rating could limit, or, in the case of a significant downgrade, preclude our ability to issue commercial paper under our current programs.

READING AND STUDYING THE FINANCIAL STATEMENTS AND FOOTNOTES

After the analyst understands the company's business environment, financial statement information can be studied. This analysis consists of three steps: (1) read the audit report, (2) identify significant transactions and the company's important segments, and (3) read the income statement, balance sheet, statement of cash flows, statement of shareholders' equity, and footnotes.

The Audit Report

The audit report serves as the accounting profession's "seal of approval," stating whether, and to what extent, the information in the financial statements fairly reflects the financial position and operations of the company.

After reviewing the financial records of a company, the auditor usually renders a **standard audit report** stating that the financial statements fairly reflect the financial position and operations of the company and the internal control system is reasonably effective. Such a report also states that all necessary tests were conducted in concluding that a company's financial statements conform to generally accepted accounting principles.[3] In

3. Examples of the standard audit report can be found in Chapter 1 of this text and in Appendix C, where excerpts from NIKE's SEC Report 10-K is located.

such cases, the reader can be reasonably assured that the information in the statements is credible and that the company in question is in reasonable financial health.

Accounting Trends and Techniques (New York: AICPA, 2009) reported that, of the 600 major U.S. companies surveyed, the overwhelming majority received a standard audit report in 2009. The remainder of these companies received something other than a standard report. Auditors depart from the standard report for many different reasons, some of which can be quite serious. For example, in a recent study by John Grice, an accounting professor at Troy State University, over 50 percent of the publicly traded companies that go bankrupt receive an audit opinion in the year prior to bankruptcy indicating "substantial doubt" about the company's ability to continue as a going concern.

Not all companies are audited by certified public accountants. Only those companies whose equity securities are traded on public stock exchanges are legally required to do so. Such publicly traded companies tend to be the largest in the United States (in terms of annual sales or total assets), yet they represent only a small portion of the total number of U.S. companies. These other companies may or may not choose to have their statements audited. Many are required to do so as a condition for private equity issuances or bank loans, but most are not audited at all. A comprehensive audit by a public accounting firm can be very time-consuming and costly, and for many small companies, especially those that do not rely on outside sources of capital, the benefit from the audit simply does not justify the costs. In such cases, the financial statement user must proceed with extreme caution.

A controversy called "Big GAAP vs. Little GAAP" is brewing currently among accounting policymakers. It involves whether a separate set of less rigorous generally accepted accounting principles should be established for small and/or non-publicly traded companies. This same issue will arise if and when the United States moves to IFRS—that is, will a standard audit report require that non-public companies use IFRS instead of U.S. GAAP?

Significant Transactions and Important Segments

Predicting earnings and cash flows also involves reviewing significant transactions entered into by a company or significant recent events that might affect a company's performance. Such items can have an important effect on the future direction of a company and may distort the financial statements, making it more difficult to assess a company's financial position and operations. Examples include major acquisitions, the discontinuance or disposal of a business segment, unresolved litigation, major write-downs of receivables or inventories, offers to purchase outstanding shares (tender offers), extraordinary gains or losses, and changes of accounting methods. Usually, such transactions or events are discussed in the footnotes of the annual report, and the financial effects are prominently disclosed on the income statement and/or statement of cash flows.

Analysts must pay careful attention to how these items affect the income statement. They can dramatically impact reported income, yet reflect little about the company's future. An important concept in financial statement analysis is called **earnings persistence,** which refers to the extent to which an income statement item reported in the current period can be expected to reflect future income levels. An item with high

persistence would be expected to relate closely to future income amounts and be useful in predicting them, while low persistence earnings are normally associated with "one-time," nonrecurring events.

When Motorola sold its automotive electronics business, it booked a gain on the sale of $399 million. Including the gain, the company reported net income for the year of $3.6 billion. Comment on whether an analyst should include the gain in the assessment of management's past performance. Also comment on whether an analyst should consider the gain in the assessment of the company's future performance.

Like many large companies, Walt Disney is composed of several **business segments:** media networks, parks and resorts, studio entertainment, consumer products, and interactive media. Each is briefly described below.

Segment	Description	Percent of Company 2009 Revenues/Profits
Media networks	**Television production**	**45/71**
Parks and resorts	**Theme parks**	**29/21**
Studio entertainment	**Motion pictures**	**17/3**
Consumer products	**Disney toys, apparel, etc.**	**7/9**
Interactive media	**Video games, online Web sites**	**2/loss**

During 2009 media networks was by far the largest source of revenues and profits, parks and resorts and motion pictures were less profitable, and the relatively small interactive media segment actually posted a loss.

Disney's operations can also be broken down based on geographic segments. In 2009, 76 percent and 74 percent of Disney's revenues and profits, respectively, were generated in the United States and Canada, where 88 percent of Disney's fixed assets are invested; the remainder are in Europe, Asia, and Latin America.

Segment information can be very useful because it provides insight into how and where large companies invest their resources and generate their revenues and profits. Under both U.S. GAAP and IFRS, companies are required to disclose revenues, profits, and assets of their primary operating and geographic segments. Reviewing this information is essential for effective financial analysis.

Financial Statements and Footnotes

Financial statements were discussed in Chapter 2, and the information provided in the footnotes will be discussed and illustrated throughout the remainder of the text. There is, however, one important point worth mentioning here.

One goal of assessing a company's business environment is to identify key items on the financial statements. For example, success for companies in the retail industry, like Wal-Mart and Home Depot, depends on the quality of inventory management. Consequently, inventory, accounts payable, and cost of goods sold—and the related footnotes—are particularly important financial statement accounts for these companies. In financial services, companies like Bank of America loan billions of dollars each year to customers, which makes the collectibility of receivables especially important. Software manufacturers, such as Microsoft, invest heavily in research and development, an income statement expense account that consistently generates considerable attention from

analysts. Therefore, when reading the financial statements, it is important to recognize that the nature of the company's operations normally determines where the analysis should be focused. This is particularly true for Internet companies like Google, which invest heavily each year in the acquisition of new companies.

ASSESSING EARNINGS QUALITY

Earnings quality refers to the extent to which the reported financial statements deviate from the true financial condition and performance of the company. One aspect of assessing earnings quality involves determining the extent to which management's biases have influenced the financial statements. Four strategies used by managers to "manage" reported accounting numbers are well known. Each is discussed below.

Overstating Operating Performance

In certain situations, managers simply attempt to devise a more favorable picture by **overstating the performance** of the company. This is often achieved by accelerating the recognition of revenues or deferring the recognition of expenses. Young, fast-growing, aggressive companies sometimes use this reporting strategy to help them attract much-needed capital, and it is also common in situations where companies face financial difficulties.

In a well-known article entitled "Earnings Hocus-Pocus," *Business Week* reported that when the economy slows and Wall Street gets jittery, concerns grow that companies desperate to keep up earnings and stock prices practice even more aggressive accounting. Explain what this means and provide several examples of "aggressive accounting."

Taking a Bath

When a company experiences an extremely poor year, it sometimes chooses very conservative accounting methods, estimates, or judgments (e.g., recognize an accounting loss) that, in turn, further reduce the company's reported financial condition and operating performance in that year. This strategy, called **taking a bath,** enables companies to recognize losses in years that are already very poor, in hopes that these losses may be less obvious. Furthermore, by recognizing losses in the current year, management will not have to recognize them in future years, which in turn may improve future financial statements.

That same *Business Week* article (see above) noted, "The aim of many of today's giant write-offs is to front-load expenses. Charge off three years of expenses all at once, and by definition future earnings will be better. It's akin to making three years of mortgage payments all at once, and claiming that your income has grown [across the three-year period]." Explain the meaning of this quote and provide several examples of "front-loading expenses."

Creating Hidden Reserves

Very conservative accounting methods, estimates, and judgments may also be used by management in years of extremely good performance. This strategy, called **creating hidden reserves,** can help management to "smooth" reported earnings over time. Recognizing accounting losses in the current period ensures that reported earnings in that period are not too high and, in addition, guarantees that the loss will not have to be recognized in future periods when reported earnings may be less impressive.

Fannie Mae and Freddy Mac are companies that buy home mortgage receivables from banks, providing the banks with more money to make new loans. Consequently, the main assets held by Fannie and Freddy are receivables, which are of little value if the home mortgages are not paid on a timely basis. In 2003 and 2004 both companies were cited for using accounting discretion to make reported earnings look less volatile, and more recently, both were taken over by the federal government due to the falling value of the mortgage loans. Why would a company want to make its reported earnings look less volatile, and how might Fannie and Freddy have used accounting discretion to "smooth earnings"?

Employing Off-Balance-Sheet Financing

Managers have been known to structure financing transactions and choose certain accounting methods so that debt need not be reported on the balance sheet. By avoiding the recognition of debt, such activities, called **off-balance-sheet financing,** may make the reporting company appear less risky. As noted in *Forbes,* "The basic drives of man are few: to get enough food, to find shelter, and to keep debt off the balance sheet." In a very famous and costly financial fraud, Enron Corporation was charged with failing to report billions of dollars of liabilities on its balance sheet.

RadioShack Corporation leases rather than owns most of its facilities. These leases involve significant contractual commitments to make payments far into the company's future—sometimes as long as ten or twenty years. Such commitments in the year 2008 totaled $640 million. For the most part, these payments are accounted for on the income statement as rent expense as they are paid. Is there another way one might view these commitments, perhaps as a liability? Discuss.

Given such strategies, financial statement users must not only analyze the statements, but must also attempt to assess the extent to which management has had discretionary influence over the statements. To do so, users must examine the footnotes closely to identify the accounting methods that have been chosen, while being particularly aware of those areas in the statements that are most sensitive to the subjective estimates and judgmental reporting decisions of management. Users should also learn as much as possible about the situation faced by management or, in other words, "put

themselves in management's shoes" by investigating incentive compensation contracts, debt covenants, and the general economic environment in which the company itself and its industry exist. With such information, users can better understand the economic incentives that may have determined the reporting strategies chosen by management.

Assessing the quality of a company's reported numbers is useful because it enables users to adjust the statements and thereby make more accurate assessments of a company's true value. Indeed, in a recent study a well-known earnings quality analyst found that from 1998 to 2004, the fifty companies with the best-quality earnings had returns about four times the average for the stock market in total. The bottom fifty had zero returns.

IFRS relies more heavily than U.S. GAAP on management's discretion to choose the method of accounting that fairly reflects the company's financial condition and performance, and at the same time requires fewer disclosures. IFRS also more frequently allows the use of fair market values as the basis for asset measurement. Given these differences, comment on the amount and nature of earnings management practiced under the two systems.

Earnings Quality and Unrecorded Events

Assessing earnings quality also includes considering the unrecorded events not reflected on the financial statements. Once again, these limitations depend on the nature of the company under analysis. The financial statements of professional service companies, where the value lies in the professional staff, may be quite limited because the balance sheet does not contain a value for human capital. In such cases, the analyst can improve the quality of the statements by estimating the value of human capital. Companies in the high-tech industry may have patents and formulas and other intangible assets that are not valued accurately on the balance sheet. Here again, analysts may wish to adjust the reported values of these assets. Such adjustments are highly subjective and often must be based on information available outside the financial statements (e.g., industry trade journals, asset appraisals). Nonetheless, the goal of earnings quality assessment is to improve the quality of the reported numbers, and the analyst should make some attempt to achieve it.

During the financial crisis of 2008–2009, many bankers were laid off, as business prospects were bleak. Finally, in the second half of 2009, banks reported a return to profits, and the news service Reuters reported that investment banks, including J.P. Morgan and Goldman Sachs, were returning to the labor market, hiring investment bankers and traders. Reuters cited the increased activity of recruiting professionals, known as "headhunters," as a sign that the banks were seeing a brighter future. How do you think the stock market reacted to this news, and how was it reflected in the financial statements of the banks?

ANALYZING THE FINANCIAL STATEMENTS

Now that the analyst has examined the business environment, read the financial statements, and assessed the quality of the reported numbers, the statements can be analyzed. Financial statement analysis is a broad and complex topic. In this chapter, we discuss comparison analysis, which includes common-size analysis and ratio analysis. Appendix 5A introduces the concept of shareholder value creation and contains a framework designed to help identify it and analyze its determinants via the analysis of ratios as a package (called the ROE model).[4] It also describes the basics of cash flow analysis.

Accounting numbers are not very meaningful in and of themselves. They become useful only when they are compared to other numbers. For example, suppose that you read in the *Wall Street Journal* that PepsiCo reported net income of $1 billion for 2010. Would you interpret that announcement as favorable or unfavorable news? This question is difficult to answer in the absence of a basis for comparison. Income of $1 billion is neither large nor small in an absolute sense. It depends on such factors as the amount of net income reported by PepsiCo in previous years, the amount of net income reported by other companies similar to PepsiCo, normally in the same industry, the size of PepsiCo's operations and capital base, or even the profit expected by analysts. Thus, financial accounting numbers are only meaningful when compared to other relevant numbers. Such comparisons can be made in three ways: (1) across time, (2) across different companies within the same industry, and (3) within the financial statements of the company at a given point in time against a benchmark or target.

Comparisons across Time

Financial accounting numbers can be made more meaningful if they are compared across time. At a minimum, generally accepted accounting principles require that the financial statements of the current and the preceding years be disclosed side by side in published financial reports. Income statements, statements of cash flow, and statements of shareholders' equity are required for three years, while balance sheets are required for two. While this is helpful for identifying changes from one year to the next, many companies provide comparisons of selected items, accounting and nonaccounting, across five- or ten-year periods. Such disclosures can help a user to develop a "feel" for a company's activities and its general financial condition and, at the same time, can identify certain trends and turning points.

JCPenney Company, for example, provides a five-year comparison of most income statement items, selected per-share and balance sheet items, and the number of its employees. Delta Air Lines provides a ten-year comparison of most income statement items, selected per-share and balance sheet items, and such nonaccounting information as available seat miles, revenue passenger miles, and passenger load factor. Wendy's International provides a ten-year comparison of selected information about operations, financial position, per-share data, financial ratios (e.g., gross margin, current ratio, and debt/equity ratio), restaurant data (e.g., number of U.S. and international restaurants), and other data, including the numbers of shareholders and employees.

Comparison within the Industry

A second type of comparison that can enhance the meaningfulness of financial accounting numbers is to compare them to those of similar companies. Similar companies are

4. The ROE model is used as a framework for financial analysis periodically throughout the remainder of the text.

usually found in the same industry; thus, industry-wide statistics are often a useful basis for comparison. Information concerning industry averages is reported by such sources as (1) *Dun & Bradstreet's Key Business Ratios,* (2) *Robert Morris Associates' Annual Statement Studies,* (3) *Moody's Investors Service,* and (4) *Standard & Poor's Industry Surveys*.

Differences in what are considered normal accounting numbers across industries can be very significant. For example, in the hobby, toy, and games industry, on average, current assets account for 80 percent of total assets, while in the telecommunications industry, the average percentage is only 31. Consequently, it is very important that the accounting numbers of a given company in a given industry be evaluated in terms of the norms established in that industry.

Comparisons within the Financial Statements: Common-Size Statements and Ratio Analysis

A third way to analyze financial statement numbers is to compare them to other numbers on the financial statements of the company at a particular point in time. Such comparisons can take two forms: (1) common-size financial statements and (2) ratio analysis.

COMMON-SIZE FINANCIAL STATEMENTS

Financial statement numbers can be expressed as percentages of other numbers on the same statements. On the income statement, expense items and net income are often expressed as percentages of net sales. On the balance sheet, assets and liabilities can be expressed as percentages of total assets (or liabilities plus shareholders' equity). Presenting such information gives rise to **common-size financial statements.** Common-size income statements and balance sheets for La-Z-Boy Incorporated are contained in Figure 5–2.

Common-size financial statements can help to indicate why changes occur in a company's financial performance and financial condition. La-Z-Boy's sales decreased from 2007 to 2008, and its net loss worsened. Expenses as a percent of sales increased—leading to a greater loss as sales declined faster than expenses. On the balance sheet,

FIGURE 5–2
Common-size financial statements—La-Z-Boy, Inc. (dollar amounts in millions)

	2008	%	2007	%
INCOME STATEMENT				
Net sales	$1,227	100	$1,451	100
Cost of sales	(888)	72	(1,057)	73
Expenses and charges	(460)	37	(408)	28
Net income	$ (121)	(9)	$ (14)	(1)
BALANCE SHEET				
Current assets	$ 348	63	$ 427	56
Long-term assets	205	37	342	44
Total	$ 553	100	$ 769	100
Current liabilities	$ 126	23	$ 164	21
Long-term liabilities	121	22	154	20
Shareholders' equity	306	55	451	59
Total	$ 553	100	$ 769	100

total assets declined, and liabilities as a percent of total assets slightly increased. Also, the mix of the company's assets shifted in favor of short-term assets.

FINANCIAL RATIOS

Preparing common-size financial statements is simply a matter of computing ratios in which income statement or balance sheet items act as numerators and sales or total assets serve as denominators. Computing additional ratios using two or more financial statement numbers is also a common and useful practice, generally known as **ratio analysis.**

Two general points are particularly important when computing ratios. First, with only a few exceptions, there are no hard-and-fast rules for the computation of ratios. The ratios discussed here are merely representative of ratios that are widely used. Analysts can, and do, adjust them to fit different situations, and certainly other ratios might be equally or more relevant to a given decision.

Second, in the computation of many ratios, income statement numbers are compared to balance sheet numbers. Since the income statement refers to a period of time and the balance sheet refers to a specific point in time, in calculating these ratios it is usually best to compute an average for the balance sheet number. One way to compute such an average is to add the account balance at the beginning of the period to the account balance at the end of the period, and divide the result by 2. This method provides a simple average for the balance sheet dollar amount.[5] The following discussion divides the ratios into five categories: (1) profitability, (2) leverage, (3) solvency, (4) asset turnover, and (5) other ratios.

PROFITABILITY RATIOS. Net income, or profit, is the primary measure of the overall success of a company. This number is often compared to other measures of financial activity or condition (e.g., sales, assets, shareholders' equity) to assess performance as a percent of some level of activity or investment. These comparisons are referred to as **profitability ratios** and are designed to measure earning power.

Return on Equity. Return on equity compares the profits generated by a company to the investment made by the company's shareholders.

Net Income[6]/Average Shareholders' Equity

Net income, which appears in the numerator, is viewed as the return to the company's owners, while the balance sheet value of shareholders' equity, which appears in the denominator, represents the amount of resources invested by the shareholders (contributed capital + retained earnings).

This ratio is considered a measure of the efficiency with which the shareholders' investment is being managed. As the ratio increases, management tends to be viewed as more efficient from the owner's perspective. Shareholders often compare this ratio against the returns of other potential investments available to them to determine whether their investment in a company is performing satisfactorily.

Return on Assets. Another measure of return on investment is return on assets. This measure is broader than return on equity because it compares the returns to both shareholders and creditors to total assets, the total resources provided by shareholders and creditors.

{Net Income + [Interest Expense (1 − Tax Rate)][7]}/Average Total Assets

5. A weighted average, which is covered in advanced texts, may be more appropriate in certain cases.
6. Dividends paid on preferred stock are normally subtracted from net income in the numerator. However, because such dividends are normally small, we will assume that they are zero.
7. Since interest is deductible for tax purposes, the actual cost of the interest is reduced by the tax savings.

Accordingly, the numerator includes both the return to the shareholders (net income) and the return to the creditors (interest expense), while the denominator consists of the balance sheet value of total assets, which is equivalent to the investments of both the shareholders (shareholders' equity) and the creditors (total liabilities).

Return on Sales, or Profit Margin. Return on sales, or profit margin, is computed by dividing the return to the shareholders and creditors by net sales.

{Net Income + [Interest Expense (1 − Tax Rate)]}/Net Sales

This ratio provides an indication of a company's ability to generate and market profitable products and control its costs. It reflects the number of cents in profit for every dollar of sales.

Discuss the following information, reported by Eli Lilly, a major pharmaceutical company.

	2008	2007	2006
Return on equity	(20.5%)	24.1%	24.5%
Return on assets	(6.8%)	12.8%	12.2%
Return on sales	(9.3%)	16.8%	18.8%

LEVERAGE RATIOS. Leverage refers to using borrowed funds to generate returns for the shareholders. A company that borrows $10,000 at an 8 percent interest rate and invests the funds to generate a 12 percent return is using leverage effectively. Leverage is desirable because it creates returns for the company's shareholders without using any of their money, but it increases risk by committing the company to future cash obligations. Three well-known leverage ratios are common equity leverage, capital structure leverage, and the long-term debt ratio.

Common Equity Leverage. Common equity leverage compares the return available to the shareholders to the returns available to all capital providers.

Net Income[8]/{Net Income + [Interest Expense (1 − Tax Rate)]}

High levels of this ratio indicate that the shareholders are receiving a large portion of the total return generated by the company. These high levels are the result of the company either not using leverage (e.g., low levels of borrowing, and interest expense is very low) or using leverage very effectively (e.g., high levels of borrowing, but net income is still large relative to interest expense).

Capital Structure Leverage. Recall that a company can meet its financing needs in any of three ways: (1) borrowings, (2) shareholder contributions, or (3) undistributed profits (retained earnings). Capital structure leverage measures the extent to which a company relies on borrowings (liabilities).

Average Total Assets/Average Shareholders' Equity

This ratio increases above 1 as liabilities in the capital structure increase. It decreases toward 1 as liabilities decrease. High levels indicate that a company is using leverage—large potential earning power and high levels of risk.

8. Dividends on preferred stock are normally subtracted from net income in the numerator. In this chapter, however, we assume that such dividends are zero.

Another equivalent and common way to measure capital structure leverage is called the **debt/equity ratio,** which compares liabilities to shareholders' equity, and is computed in the following way.

Average Total Liabilities/Average Shareholders' Equity

Long-Term Debt Ratio. The long-term debt ratio measures the importance of long-term liabilities as a source of asset financing.

Long-Term Liabilities/Total Assets

Companies that have large investments in long-term assets tend to finance those investments with long-term liabilities.

Discuss the following information, reported by Eli Lilly, a major pharmaceutical.

	2008	2007	2006
Capital structure leverage	2.7	2.0	2.1
Long-term debt ratio	0.32	0.30	0.27

SOLVENCY RATIOS. There is additional pressure on companies with high levels of leverage to manage their solvency, which refers to a company's ability to meet its debts as they come due. Four ratios are often used to measure this ability: (1) the current ratio, (2) the quick ratio, (3) interest coverage, and (4) accounts payable turnover.

Current Ratio. The current ratio compares current assets to current liabilities as of the balance sheet date.

Current Assets/Current Liabilities

It measures solvency in the sense that current assets, for the most part, can be used to meet current liabilities.

Quick Ratio. The quick ratio is similar to the current ratio, except that it provides a more stringent test of a company's solvency position. Current assets like inventories and prepaid expenses, which are not immediately convertible to cash, are excluded from the numerator.[9]

(Cash + Marketable Securities + Net Accounts Receivable)/Current Liabilities

Interest Coverage. The interest coverage ratio compares the annual funds available to meet interest to the annual interest expense.

(Net Income + Tax Expense + Interest Expense)/Interest Expense

Income before taxes and interest is used in the numerator because these funds can be used to pay interest. Increasing levels of this ratio signal that a company is becoming more solvent.

Accounts Payable Turnover. Many companies, especially in the retail industry, use their suppliers as an important source of financing. By delaying payments on inventory purchases to suppliers, companies can free up large amounts of cash. Accounts

9. The quick ratio is sometimes computed by excluding accounts receivable from the numerator.

payable turnover measures how quickly, on average, suppliers are paid off or, in other words, the extent to which accounts payable is used as a form of financing.

Cost of Goods Sold/Average Accounts Payable

When computed in this way, the ratio indicates the number of times during the year that the accounts payable balance is paid off. Dividing this ratio into 365 days indicates the number of days, on average, that accounts payable balances remain outstanding. Wal-Mart, for example, turns over its accounts payable approximately 8 times per year, or every 45.6 days (365 days/8).

Interpreting this ratio can be difficult. Slow turnover (i.e., few times per year or many days) can signify solvency problems in that the company may be having difficulty generating the cash to pay its suppliers. On the other hand, it may signify a financially strong company that has the negotiating power with its suppliers to use them as an inexpensive form of financing. Similarly, fast turnover can indicate financial strength or low negotiating power with suppliers. As is true for many ratios, the appropriate interpretation will depend on an understanding of the company's business environment.

Discuss the following information, reported by Eli Lilly, a major pharmaceutical company.

	2008	2007	2006
Current ratio	0.95	2.27	1.91
Interest coverage	(4.7)	18	15
Accounts payable turnover (days)	75	74	81

ASSET TURNOVER RATIOS. Asset turnover ratios—typically computed for total assets, accounts receivable, inventory, and fixed assets—measure the speed with which assets move through operations, or the number of times during a given period that assets are acquired, used, and replaced. As with accounts payable turnover, these ratios can be divided into 365 days to determine the number of days, on average, that it takes for given assets to be turned over. In general, high levels of asset turnover indicate efficient asset management—that is, a company is using a relatively low level of assets to generate returns for the shareholders. In some situations, however, low asset investments can constrain profitability.

Receivables Turnover. Receivables turnover reflects the number of times the trade receivables were recorded, collected, and recorded again during the period.

Net Credit Sales/Average Accounts Receivable[10]

It measures the effectiveness of the credit-granting and collection activities of a company. High receivables turnover often suggests effective credit-granting and collection activities, while low turnover can indicate late payments and bad debts, probably due to credit being granted to poor-risk customers and/or to ineffective collection efforts. A very high turnover, however, is not always desirable; it may indicate overly stringent credit terms, leading to missed sales and lost profits.

10. Because credit sales are rarely disclosed by companies, analysts normally use total sales as a proxy for credit sales.

Inventory Turnover. Inventory turnover measures the speed with which inventories move through operations.

Cost of Goods Sold/Average Inventory

It compares the amount of inventory carried by a company to the volume of goods sold during the period, reflecting how quickly, in general, inventories are sold. Because profit (and often cash) is usually realized each time inventory is sold and substantial costs are often associated with carrying inventories, an increase in the inventory turnover is normally desirable. However, high inventory turnovers can indicate that inventory levels are too low, giving rise to lost sales and profits due to items being out of stock.

Fixed Assets Turnover. Fixed assets turnover measures the speed with which fixed assets are used up.

Sales/Average Fixed Assets

It compares the average level of fixed assets to the sales for the year, that is, the level of fixed asset investment necessary to generate the annual sales volume.

Total Asset Turnover. Total asset turnover measures the speed with which all assets are used up in operations, aggregating the turnover measures of the component assets (e.g., accounts receivable, inventory, and fixed assets).

Sales/Average Total Assets

It provides an overall measure of asset management efficiency.

Discuss the following information, reported by Eli Lilly, a major pharmaceutical company.

	2008	2007	2006
A/R turnover (days)	49	47	54
Inventory turnover (days)	209	206	213
Fixed asset turnover (days)	154	164	187
Asset turnover (days)	502	478	542

OTHER RATIOS. The financial community uses several other ratios to assess company performance: earnings per share, price/earnings ratio, dividend yield ratio, and stock price return.

Earnings per Share. Earnings per share is perhaps the best known of all the ratios, largely because the financial press often treat it as the primary measure of a company's performance. It measures profitability strictly from the standpoint of the common shareholders. Unlike return on equity or return on assets, which assess profitability relative to a measure of capital investment, this ratio assesses profitability relative to the number of common shares outstanding. According to generally accepted accounting principles, earnings per share must appear on the face of the income statement and be calculated in accordance with an elaborate set of complex rules that are beyond the scope of this book. The basic formula is provided below.

Net Income/Average Number of Common Shares Outstanding

Price/Earnings (P/E) Ratio. The price/earnings ratio is used by many financial statement analysts to assess the investment potential of common stocks.

Market Price per Share/Earnings per Share

Specifically, by relating the price of a company's common stock to its earnings, this ratio reflects the stock market's confidence that current earnings will lead to cash inflows in the future.

Dividend Yield Ratio. The dividend yield ratio relates the dividends paid on a share of common stock to its market price. It indicates the cash return on the shareholder's investment.

Dividends per Share/Market Price per Share

Stock Price Return. The annual return on investment provided by a share of common stock is computed by subtracting the market price at the beginning of the year (Market Price_0) from the market price at the end of the year (Market Price_1), adding the dividends per share paid during the year, and dividing the result by the market price at the beginning of the year:

(Market Price_1 − Market Price_0 + Dividends)/Market Price_0

This ratio provides a measure of the pre-tax performance of an investment in a share of common stock.

In its 2008 annual report Eli Lilly provides a graph that tracks the value of $100 if it had been invested at the beginning of 2004 in (1) Eli Lilly stock, (2) the Standard & Poor's Index (a measure of the overall return of the stock market), and (3) Eli Lilly's peer group (other major pharmaceuticals—for example, Abbott, Johnson & Johnson, Merck, Pfizer, Bristol-Myers Squibb). How has Lilly stock performed relative to the overall market and relative to its peer group?

	2008	2007	2006	2005	2004
Lilly	$67	$ 85	$ 80	$ 87	$ 83
S&P Index	90	142	135	116	111
Peer Group	94	112	110	97	97

SUMMARY OF FINANCIAL RATIOS AND COMPANY RATIO PROFILES

Figure 5–3 contains a summary of the ratios discussed in this chapter, and Figure 5–4 contains selected ratios from seven well-known companies from various industries, computed from their 2008 financial statements. Consider the nature of each company's operations and think about why the ratio profiles differ across the companies.

Several concluding points about ratio analysis are important. First, ratios should never be interpreted in isolation; each ratio should be considered in the context of the company's other ratios. Wendy's International, for example, maintains a current ratio well below 1.00, which if viewed by itself could signify a solvency problem. However, the company's strong earning power and cash flows provide adequate cash to meet the company's needs. Appendix 5A introduces a method (ROE model) for analyzing ratios as a package.

FIGURE 5–3 Summary of important financial ratios

Ratio	Formula
PROFITABILITY RATIOS	
Return on equity	Net Income/Average Shareholders' Equity
Return on assets	{Net Income + [Interest Expense (1 − Tax Rate)]}/ Average Total Assets
Return on sales (profit margin)	{Net Income + [Interest Expense (1 − Tax Rate)]}/Net Sales
LEVERAGE RATIOS	
Common equity leverage	Net Income/{Net Income + [Interest Expense (1 − Tax Rate)]}
Capital structure leverage	Average Total Assets/Average Shareholders' Equity
Debt/equity ratio	Average Total Liabilities/Average Shareholders' Equity
Long-term debt ratio	Long-Term Liabilities/Total Assets
SOLVENCY RATIOS	
Current ratio	Current Assets/Current Liabilities
Quick ratio	(Cash + Marketable Securities + Net Accounts Receivable)/ Current Liabilities
Interest coverage	(Net Income + Tax Expense + Interest Expense)/ Interest Expense
Accounts payable turnover*	Cost of Goods Sold /Average Accounts Payable
ASSET TURNOVER RATIOS*	
Receivables turnover	Net Credit Sales/Average Accounts Receivable
Inventory turnover	Cost of Goods Sold/Average Inventory
Fixed assets turnover	Sales/Average Fixed Assets
Total asset turnover	Sales/Average Total Assets
OTHER RATIOS	
Earnings per share	Net Income/Average Number of Common Shares Outstanding
Price/earnings ratio	Market Price per Share/Earnings per Share
Dividend yield ratio	Dividends per Share/Market Price per Share
Stock price return	(Market Price$_1$ − Market Price$_0$ + Dividends)/Market Price$_0$

**Each turnover ratio can be converted to "days" by dividing by 365 days.*

Based on your knowledge of the companies in Figure 5–4, provide reasons why the value of some of the ratios varies so much across companies. For example, why is Bank of America's capital structure leverage ratio so large, and why do Kroger's receivables turn over so quickly while Bank of America's turn over so slowly? Why are some of the ratios NA (not available)?

FIGURE 5–4 Selected ratios for well-known companies

	Kimberly-Clark	Microsoft	Hewlett-Packard	Amazon	Kroger	Bank of America	AT&T
ROE	0.37	0.38	0.22	0.33	0.25	0.03	0.12
ROA	0.11	0.19	0.09	0.09	0.07	0.02	0.06
ROS	0.10	0.25	0.07	0.04	0.02	0.36	0.12
CEL	0.88	1.00	0.97	0.93	0.80	0.10	0.85
CSL	4.01	1.99	2.61	3.83	4.51	10.91	2.55
CR	1.22	1.82	0.98	1.30	0.95	1.12	0.53
IC	8.59	NA	32.83	13.56	5.05	1.11	6.87
ART (times)	7.69	4.72	7.80	25.02	87.86	0.13	7.70
IT (times)	5.49	14.28	11.26	11.46	17.07	NA	NA
AT (times)	1.06	0.78	1.17	2.59	3.34	0.06	0.46
EPS	4.06	1.63	3.25	1.52	1.92	0.56	2.17
P/E ratio*	14.81	18.10	15.30	78.61	11.25	26.38	11.67

**Yahoo! Finance* (January 26, 2010).

Ratio analysis is also limited in a number of significant ways. Financial ratios draw from financial statement information, which has important limitations. Limited inputs are rarely improved, and are sometimes made worse, when combined into ratios. Ratio comparisons within a firm across time, across firms at a given point in time, and across firms from different countries are fraught with difficulties and must be done with extreme caution. Thus, while ratio analysis is a valuable tool for the analyst, it must be conducted thoughtfully and carefully.

PREDICT FUTURE EARNINGS AND/OR CASH FLOW

After the analyst completes the first four steps (assessing business environment, reading and studying the financial statements, assessing earnings quality, and analyzing the financial statements), a prediction is normally prepared. Analysts who follow equity securities predict future earnings or cash flow, using these predictions in mathematical models (e.g., present value)[11] that provide estimates of the value of a company's shares of stock. These estimates are compared to current market prices to determine whether a particular security is over- or underpriced. Credit analysts prepare cash flow predictions to see whether loan customers will be able to make their loan payments when they come due.

Predicting future levels of earnings or cash flow is a difficult and subjective process. Nonetheless, it is very important for success, and astute financial statement analysis can improve these predictions significantly.

11. See Appendix A in the back of the text for a discussion of present value. Appendix 5A at the end of this chapter provides a brief discussion of projecting future financial statements.

ANNUAL REPORT INFORMATION AND PREDICTING STOCK PRICES

It is well known that stock prices react to the disclosure of accounting information. Indeed, *USA Today* reported that "profits of public companies have the greatest and most immediate effect on the company's stock price," and in a number of accounting and finance research studies, stock prices of companies traded on the U.S. stock markets have been shown to react almost instantaneously to the disclosure of accounting information. It is important to understand, at the same time, that published annual reports are not available to the public until several months after the balance sheet date, and important numbers, such as net income, are announced quarterly and are available to the public almost as soon as they are determined. Thus, it is difficult, if not impossible, for investors to use the information contained in an annual report to identify undervalued stocks traded on the public securities markets. Such information is not timely enough because the market price has already reacted to important accounting numbers that were released at an earlier date.

While annual report information in and of itself may not be particularly helpful in identifying undervalued publicly traded securities, this certainly does not mean that it is useless. There is evidence, for example, that annual report information, if analyzed in a superior fashion, can lead to better-than-average returns in the stock market. Such analysis may also help an investor to better understand the expected risk and return levels associated with certain investments, to ascertain whether those levels are consistent with the investor's preferences. In addition, banks use financial statement analysis to guide loan decisions and to determine the terms of the loans they grant, and financial ratios have been used successfully by bankers and auditors to predict business failures. Financial ratios that deviate from normal expectations can be used to identify management report fraud, and financial statement analysis can also be useful when deciding whether to purchase equity or debt securities in companies that are not publicly traded. Finally, recall that financial ratios are used in contracts to influence the actions of managers.

INTERNATIONAL PERSPECTIVE: FINANCIAL STATEMENT ANALYSIS IN AN INTERNATIONAL SETTING

U.S. investors are showing increasing interest in foreign securities traded on foreign markets, and the securities of more and more non-U.S. firms using International Financial Reporting Standards (IFRS) are being listed on the U.S. exchanges. Such securities often provide returns that exceed those available from U.S. firms, and holding foreign stocks can help reduce an investor's risk by diversifying the investment portfolio to include securities of companies from more than one country. In most cases, the choice to buy or sell a foreign security is based on financial information provided by the investee company, which, in turn, presents the investor with the difficult challenge of analyzing and interpreting financial statements prepared according to foreign accounting (often IFRS) and business norms.[12]

Investors interested in comparing the financial performance and condition of companies from different countries often must contend with two difficult issues. First, if

12. Some non-U.S. companies, especially small ones, publish financial statements based on standards established by the government of their country.

the companies use different accounting standards (e.g., U.S. GAAP vs. IFRS), the reported values must be adjusted to a common basis so that reasonable comparisons can be made.

Consider, for example, an investor analyzing the cell phone industry and involved in comparing Finland-based Nokia, with IFRS-based financial statements, to U.S.-based AT&T, which publishes financial statements under U.S. GAAP. Until 2007, the SEC required non-U.S. companies traded on U.S. exchanges (like Nokia) to include, in their publicly available SEC Form 20-F, a reconciliation between IFRS-based and U.S. GAAP-based net income and shareholders' equity. This form explained the amount and nature of the differences between the IFRS- and U.S.-based dollar amounts. In 2006, for example, had Nokia used U.S. GAAP, its reported net income would have been about $30 million lower. The main reason for the difference is that Nokia capitalized development costs that under U.S. GAAP would have been expensed. Shareholders' equity under IFRS, on the other hand, was about $50 million lower than it would have been under U.S. GAAP. Together, these differences indicate that Nokia's ROE (net income/shareholders' equity) was substantially higher than it would have been had it used U.S. GAAP.

Knowledge that Nokia's reported ROE was higher than what it would have been under U.S. GAAP helps the investor make a more valid comparison to AT&T's reported ROE, which was based on U.S. GAAP. A review of the 20-F forms submitted to the SEC since 1994 shows that until 2006 annual IFRS-based income amounts exceeded U.S. GAAP-based amounts by an average of between 2 percent and 10 percent, and IFRS-based shareholders' equity was less than that under U.S. GAAP by an average of between 11 percent and 16 percent. Consequently, IFRS-based ROE amounts have, on average, exceeded U.S. GAAP-based ROE amounts by around 20 percent.

Unfortunately, in 2007 the SEC eliminated the requirement to reconcile IFRS-based income and shareholders' equity with income and shareholders' equity as measured under U.S. GAAP in the SEC Form 20-F. This move made it more difficult for investors to make valid comparisons between companies that use different accounting systems, further highlighting the benefits of a single global reporting system.

It is also unfortunate that adjusting financial statements to a common basis by itself may not be sufficient to achieve meaningful comparisons. Since the accounting statements are a product of the social, economic, legal, and cultural environment, it follows that differences across environments would further complicate the interpretation of the adjusted financial statements. In other words, not only must the financial statements of a foreign-based company be adjusted, but the resulting numbers can only be interpreted through an understanding of the foreign environment.

In an interesting study, Professor Frederick Choi and a number of colleagues from Japan, Korea, and the United States showed that understanding the institutional, legal, and cultural aspects of an environment is as important as adjusting the foreign financial statements for differences in accounting principles. The authors found that the Japanese and Korean firms, in general, were much more highly leveraged (higher debt/equity ratios) and less profitable (lower net income/sales) than their U.S. counterparts, but they noted further that important environmental and cultural characteristics explained these differences. For example, raising capital through equity issuances in Japan and Korea is relatively unusual for a number of reasons, one of which is that the local banks and government play a particularly important role in providing debt capital. The authors also reported that Japanese managers are much less concerned with short-term profits than U.S. managers and are more likely to make investments

that maximize long-term profitability, often at the expense of profits in the current period. As a result, Japanese and Korean firms may appear on the surface to be more highly leveraged and less profitable than U.S. firms, but in substance they may not be. They are simply products of a different business environment.

APPENDIX 5A

SHAREHOLDER VALUE, ROE, AND CASH FLOW ANALYSES

Management's goal is to create value for the shareholders, the owners of the firm, by generating a return on the shareholders' investment that exceeds the **cost of equity**—the return the shareholders could have earned if they invested their funds in an equally risky alternative investment. **Return on equity** (net income/average shareholders' equity) (**ROE**) defines the return on the shareholders' investment for a given period; therefore, **shareholder value creation** occurs in a given period if ROE is greater than the cost of equity. If ROE is less than the cost of equity, value has been lost. Management's success is defined by whether it creates shareholder value in the long run.

The cost of equity is very elusive, and even the best economists have been unable to agree on how it should be computed. It is not disclosed on the financial statements or related footnotes because it is simply too subjective. It must be estimated. Some companies discuss their cost of capital estimates in their annual reports, but it remains relatively rare. Most economists agree, however, that the cost of equity contains two components: a risk-free rate of return, which is shared by the entire economy, and a risk premium, which is unique to the particular investment.

Cost of equity = Risk-free rate of return + Risk premium

The rate of return on ten-year government treasury bills as of a particular date is often used to estimate the risk-free rate. Historically, it has ranged from around 3 to 8 percent, averaging about 6 percent. The more difficult part of estimating the cost of equity is the risk premium, which varies significantly across firms and industries. Following, we list estimates of the cost of equity for selected firms as of the end of 2008. The ten-year government treasury bill rate was approximately 4 percent.

Firm	Industry	Risk-free rate	Risk premium	Cost of Equity
Cisco Systems	Internet hardware and software systems	4%	12%	16%
DuPont	Science	4%	6%	10%
General Motors	Auto manufacturing and financial services	4%	13%	17%
Lowe's Corporation	Retail home improvement	4%	5%	9%
McDonald's	Fast food	4%	8%	12%
Nordstrom	Retail clothing	4%	8%	12%
Walt Disney	Entertainment and media	4%	7%	11%

DETERMINANTS OF VALUE CREATION: ANALYZING RETURN ON EQUITY

Because the comparison between ROE and the cost of equity is the indicator of shareholder value creation, analysts are very interested in changes in ROE across time for a given firm, as well as ROE comparisons across similar firms (e.g., in the same industry) as of a point in time. Changes in ROE across time for a firm indicate whether a company's value creation is improving or deteriorating; ROE comparisons across similar firms indicate which companies are creating the most value. Analysis can also include both simultaneously—that is, how does a company's value creation across time compare to that of other companies?

Analysts not only use ROE to track and compare value creation, but they are also interested in *why* value creation changes across time and *why* one company's value creation exceeds another's. What features about a company's operating, investing, and financing decisions drive changes in value creation or explain why one company creates more value than another? These features are called value drivers, and the identification and analysis of key value drivers is an important objective of financial statement analysis. Managers can use the same tools to predict and explain how their actions will lead to future value creation.

A well-known framework designed to identify value drivers, by analyzing changes in ROE across time and differences in ROE across companies, is called the DuPont (ROE) model, which is described by the following algebraic expression.[13]

Return on equity = Return on assets × Capital structure leverage × Common equity leverage

This expression defines three financial statement ratios (return on assets, capital structure leverage, and common equity leverage) that when multiplied together equal ROE. This equality means that changes in these ratios lead to changes in ROE. For example, if common equity leverage and capital structure leverage are unchanged, an increase in return on assets leads to an increase in ROE. An important goal for managers, therefore, is to increase ROE by taking actions that increase its determinants. Although increasing leverage can increase ROE, the additional reliance on debt associated with increasing leverage also elevates the firm's risk and cost of capital. Consequently, attempts to increase ROE should first be directed at improving operating and investing decisions, which should lead to increases in return on assets (ROA).

ROA can be decomposed further into the product of two key financial ratios—profit margin (or operating return on sales) and asset turnover. Changes in profit margin and asset turnover lead to changes in ROE through their effects on ROA. Consider a company, for example, that makes a decision that increases profit margin without decreasing asset turnover. This decision would lead to higher ROA, and if the leverage ratios were unchanged, higher ROE and the creation of shareholder value.

Return on assets = Profit margin (Return on sales) × Asset turnover

Figure 5A–1 illustrates the ROE framework and relates it to three important value drivers: (1) effective sales and expense management, (2) effective working capital and long-term asset management, and (3) effective capital structure management. **Effective sales and expense management** creates value by increasing profit margin, which increases ROA, which, in turn, increases ROE. **Effective working capital and long-term asset management** creates value by increasing asset turnover, which, in turn, increases ROA and ROE. **Effective capital structure management** can increase ROE by increasing the leverage ratios, but more leverage leads to more interest expense and may lead to lower common equity leverage. A close relationship also exists between these three value drivers and operating, investing, and financing activities. Operating activities involve both sales and expense and working capital management; investing activities involve long-term asset management; and financing activities involve capital structure management. In the next section we discuss financial statement ratios that measure these value drivers.

13. This version of the DuPont model was introduced in Selling, T. I., and C. P. Stickney, "Disaggregating the Rate of Return on Common Shareholders' Equity: A New Approach," *Accounting Horizons* 4, no. 4 (December 1990).

FIGURE 5A–1 Value drivers and financial statement ratios

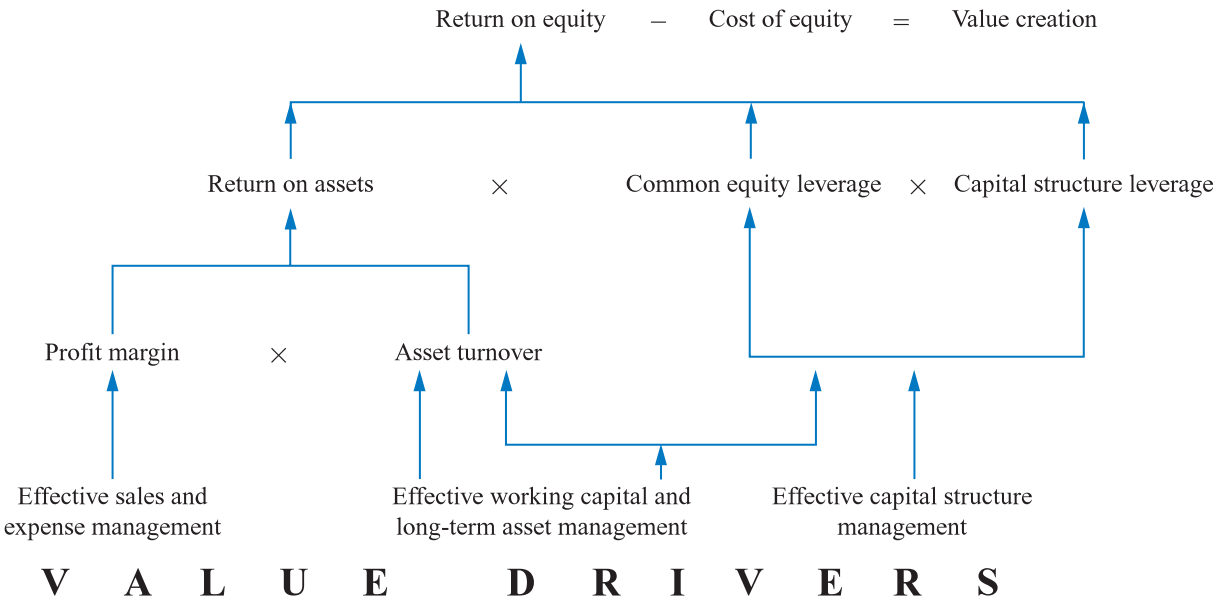


Figure 5A–2 expands Figure 5A–1 to include the financial ratios we have discussed in Chapter 5. In summary, management's goal is to create value by maximizing the extent to which ROE exceeds the cost of equity. To do so, it must effectively manage three key value drivers: (1) sales and expenses, (2) long-term assets and working capital, and (3) capital structure. Ratios constructed from numbers on the financial statements provide useful measures of these value drivers, and the decomposition of the ROE model shows how managing these measures links to value creation.

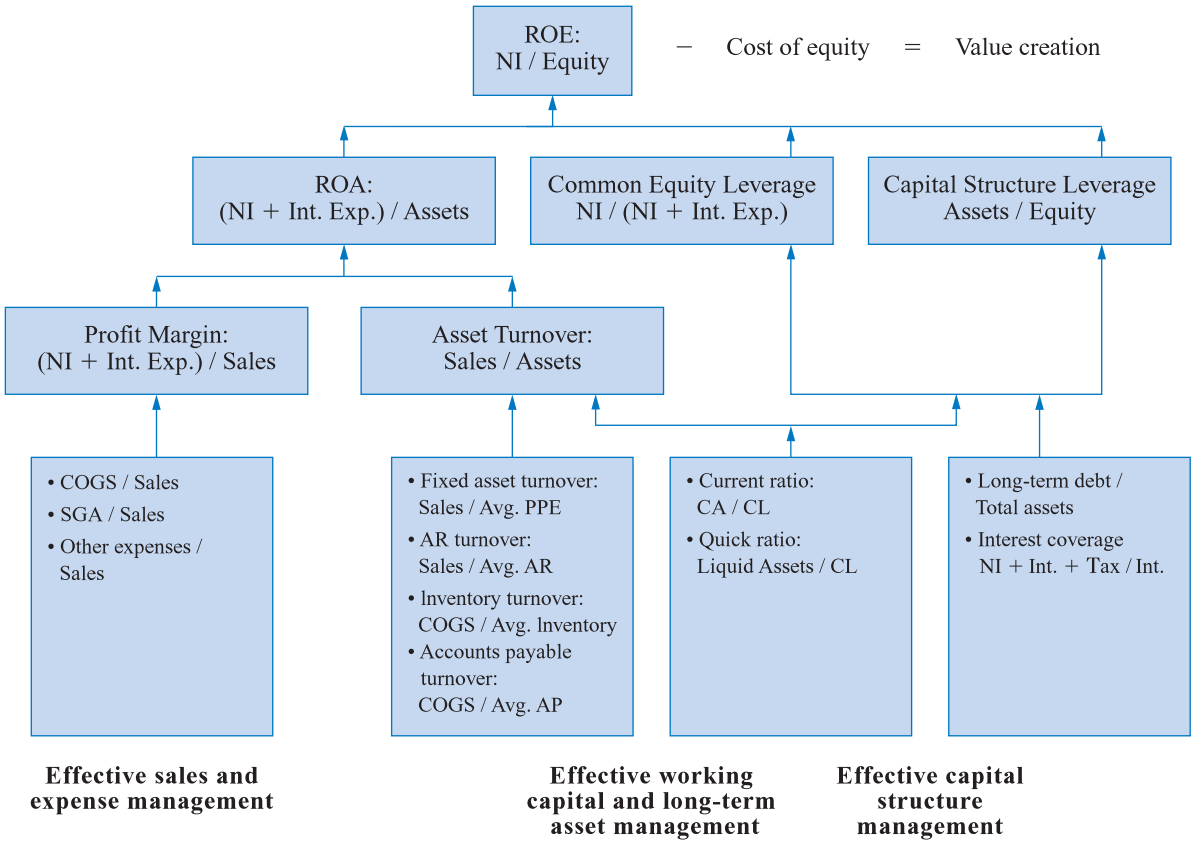
Several points should be emphasized. First, the three value drivers and the associated financial ratios can be expressed in terms of the three fundamental management activities: operating, investing, and financing. Operating activities are reflected primarily in the profit margin components (revenues and expenses) and working capital ratios (turnover and solvency ratios); investing activities are reflected primarily in the noncurrent asset turnover ratios; and financing activities are reflected primarily in the leverage and solvency ratios.

Second, any attempt to create value by managing a given ratio must consider effects on other parts of the model. For example, additional borrowing will no doubt increase capital structure leverage, but the ultimate effect on ROE cannot be determined without considering how the use of the borrowed funds affects common equity leverage and ROA.

SHAREHOLDER VALUE CREATION AND THE ROE MODEL: JCPENNEY VS. KOHL'S

Figures 5A–3 and 5A–4 summarize the financial ratios for two mid-market department stores, JCPenney and Kohl's, respectively, for 2008 and 2007, in a format consistent with the ROE framework. Figure 5A–5 compares selected ratios from Kohl's and Penney to those

FIGURE 5A–2 Complete ROE model



Key: COGS = cost of goods sold; SGA = selling; general and administrative expenses; AR = accounts receivable; PPE = property, plant and equipment; AP = account payable; CA = current assets; CL = current liabilities; Int. = interest expense

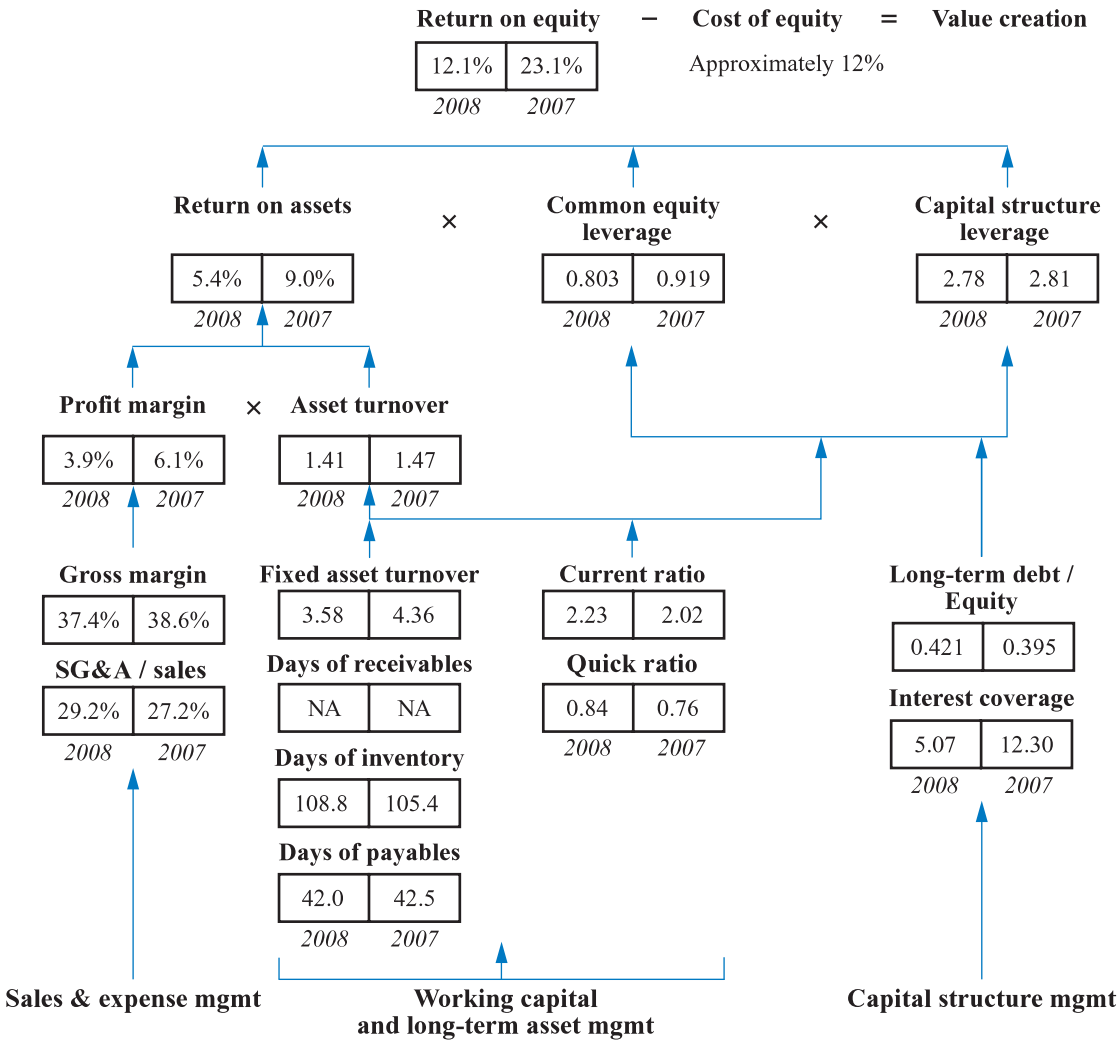
ratios computed across the members of their primary industry group, retail apparel and accessories.

Both companies performed profitably in 2008, a difficult and somewhat unique feat in the retail industry given the economic recession experienced during this time. Assuming an estimate of the cost of equity for each firm of 12 percent, both created wealth by generating returns in excess of this market standard. Both companies, however, generated lower returns in 2008 than in the previous year. As described below, the ROE model indicates that these companies generated their returns in different ways, and in a manner different from much of the industry.

JCPenney employs more leverage than Kohl's, using it to boost ROE; the company, in both 2007 and 2008, had lower profitability ratios but used higher capital structure leverage (CSL) to compensate for the lower returns. The 2.78 CSL ratio for Penney appears to be more aggressive than the 1.71 employed by Kohl's.

The more conservative approach to its capital structure taken by Kohl's was more than offset by its superior ability to generate sales from its asset base, and then more efficiently convert those sales into profits. For every dollar in asset investment, Kohl's generated $1.50 in sales, compared to only $1.41 for JCPenney. Kohl's also outperformed Penney in controlling expenses, generating 5.9 cents in profit for every dollar of sales, compared to only 3.9 cents for Penney. The companies achieved similar gross margins (37 percent), but Kohl's managed its

FIGURE 5A–3 JCPenney ROE Analysis



overhead (SG&A) expenses more efficiently. These two factors, which produced a higher ROA for Kohl's, allowed it to achieve a slightly higher ROE than JCPenney without having to bear the risk of the additional leverage.

With respect to industry comparison, both companies outperform the industry on ROE, ROA, and profit margin, but turn over their assets, especially inventory, more slowly. Some might interpret this to mean that the rest of the industry, relative to Kohl's and JCPenney, is chasing sales (volume and market share) at the expense of profits. Inventory turnover is very important in the retail industry, but it leads to sales—not necessarily profit—creation. Expense control is necessary to create profits.

This example shows how financial statement analysis can be useful in evaluating not only a company's overall performance but also the underlying reasons. Managers at JCPenney can use this analysis to pinpoint the need for a better control of overhead and corporate expenses, for example. Managers at Kohl's can use this analysis to consider what benefits would come from a more aggressive approach to its capital structure, and at what costs.

FIGURE 5A–4 Kohl's ROE Analysis

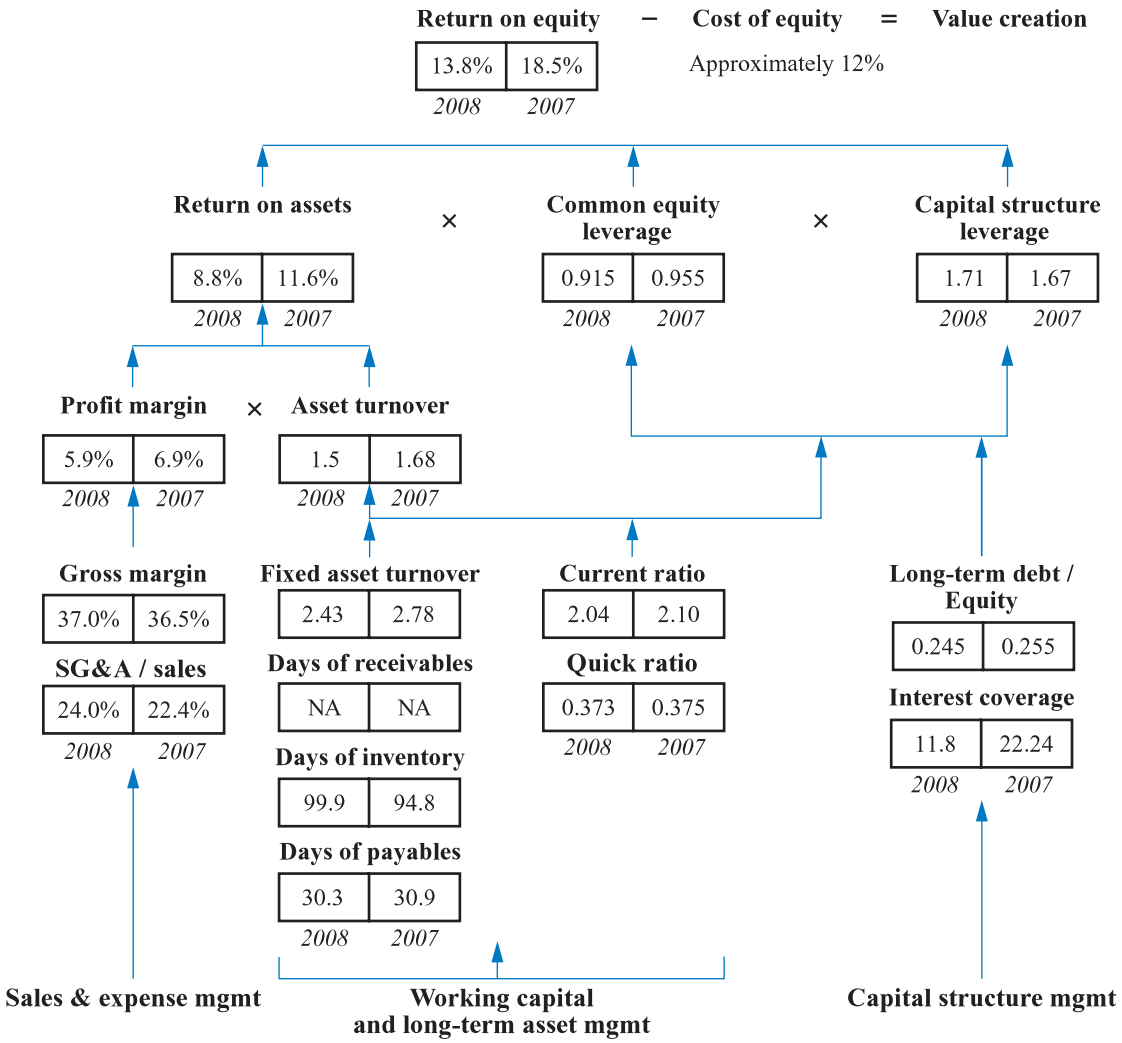


FIGURE 5A–5 JCPenney and Kohl's—industry comparison

	JCPenney	Kohl's	Industry Median*
Return on equity	0.121	0.138	0.112
Return on assets	0.054	0.088	0.047
Profit margin	0.039	0.059	0.021
Gross profit margin	0.374	0.370	0.342
Asset turnover	1.41	1.50	2.2
Days inventory	109	100	88
Long-term debt/equity	0.421	0.245	0.280
Current ratio	2.23	2.04	1.77
Quick ratio	0.840	0.373	0.500
Interest coverage	5.07	11.8	11.48

*Financial ratios provided by Hoover's, Inc.

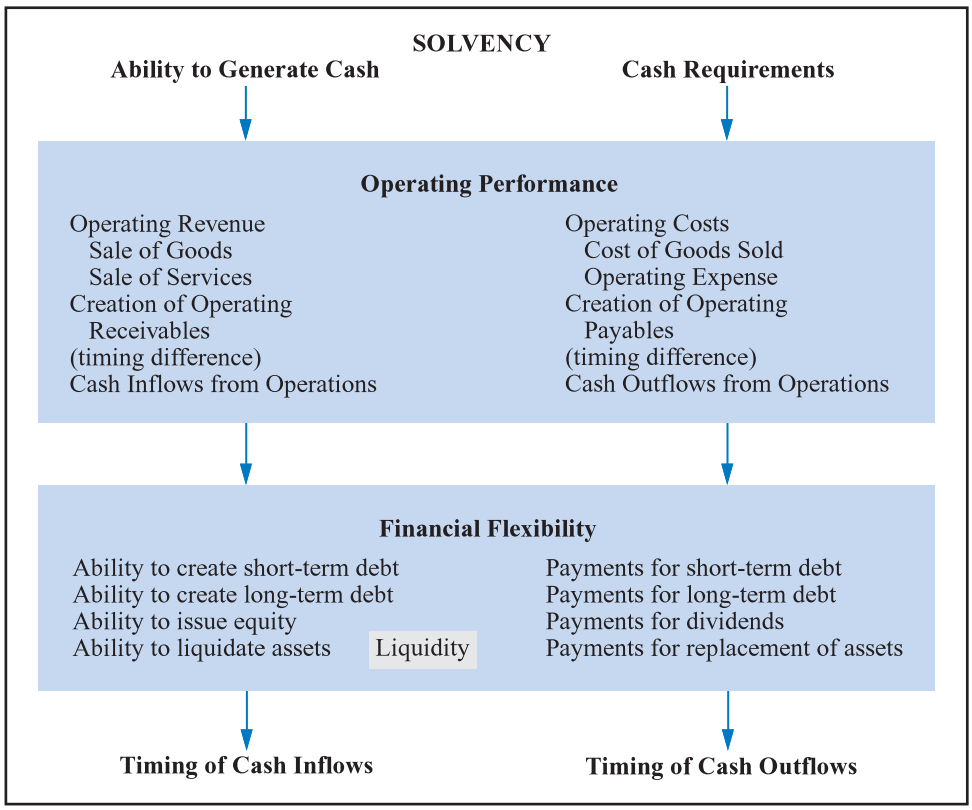
CASH FLOW ANALYSIS

Analyzing ratios can indicate a great deal about a company's performance and financial position. However, it says little about the company's cash management performance. Companies, especially highly leveraged ones that rely heavily on debt financing, need to manage their cash flows prudently to ensure that cash is available when debt payments come due.

The investment community has become increasingly concerned with the assessment of solvency, concluding that it is not sufficient simply to analyze ratios. In large part this concern has stemmed from company failures, leading to huge investor, creditor, and auditor losses that may have been averted if better information about solvency had been available. For example, famous bankruptcies involving such companies as W.T. Grant, Sambo's Restaurants, Penn Central, AM International, and Wickes Lumber encouraged the FASB in 1981 to require the statement of changes in financial position, a predecessor to the statement of cash flows. Furthermore, economic recession in the late 1980s and late 1990s brought down such corporate giants as Campeau Corporation (including Bloomingdales, Abraham & Straus, and Circle K convenience stores), R.H. Macy, several major airlines, and a host of dot-com companies. As stated in Rick Wayman's article entitled "How to Evaluate the 'Quality' of EPS" (September 19, 2003), "Without question, cash is King on Wall Street, and companies that generate a growing stream of operating cash flow are better investments than companies that post . . . negative operating cash flow."

Cash flow analysis, also called **solvency assessment,** involves estimating future cash flows and determining whether future inflows are timed so that adequate cash is available to cover future cash obligations. Three basic factors should be considered in this assessment: (1) operating performance, (2) financial flexibility, and (3) liquidity. Figure 5A–6 depicts how these factors relate to solvency.

FIGURE 5A–6
Important factors in solvency assessment



Operating performance represents a company's ability to grow (increase its net assets) through operations. Since operations is perhaps the most important source of cash to a firm, this concept is very important for solvency assessment. The operating section of the statement of cash flows is especially useful here, as are the profitability and activity ratios discussed earlier.

Financial flexibility refers to a company's ability to produce cash through means other than operations: issuing debt, issuing equity, and selling assets. Companies capable of generating cash through a number of these options are considered financially flexible. Referring to the financial statement footnotes can be useful here because a company's ability to borrow and the condition of outstanding equity issuances are normally described in some detail. The balance sheet lists the assets of the company, but users must be cautious here because the assets are not carried at market value. The statement of cash flows may be helpful in assessing financial flexibility because it describes recent debt and equity issues and payments and recent asset acquisitions and sales.

Liquidity is part of financial flexibility. It represents the ability of a company to convert its existing assets to cash. Highly liquid assets increase a company's solvency position because they represent quick access to cash and can be used to secure outstanding loans. Liquidity can be assessed by reviewing the order of the assets listed on the balance sheet. A large percentage of current assets relative to total assets can indicate high liquidity. Also, the receivables and inventory turnover ratios reflect liquidity—high turnover normally indicates high liquidity.

CASH FLOW PROFILES

The statement of cash flows can also be used to identify the cash flow profile of a company. These profiles can indicate a company's strategy, position in its life cycle, or key characteristics of its current situation. Such profiles are defined simply by whether net cash from operating, investing, and financing activities are positive or negative. Note the eight combinations listed below. They are followed by a brief description of the company's activities, based on each profile.

	1	2	3	4	5	6	7	8
Net cash from operating activities	+	+	+	+	−	−	−	−
Net cash from investing activities	+	−	+	−	+	−	+	−
Net cash from financing activities	+	+	−	−	+	+	−	−

- *Profile 1.* This company is generating large amounts of cash, perhaps in anticipation of a large investment.
- *Profile 2.* This company is financing its growth through operations and by issuing debt and/or equity.
- *Profile 3.* This company is using operating cash and selling off long-term assets to reduce debt or pay shareholders.
- *Profile 4.* This company is financing both its growth and payments to capital providers with cash from operations.
- *Profile 5.* This company is selling off long-term assets and collecting cash from capital providers to finance operating cash flow losses.
- *Profile 6.* This company is collecting cash from capital providers to finance growth and operating cash flow losses.
- *Profile 7.* This company is selling off long-term assets to finance operating cash flow losses and payments to capital providers.
- *Profile 8.* This company is using its cash reserves to finance operating cash flow losses, payments to capital providers, and growth.

PROJECTING FUTURE FINANCIAL STATEMENTS

A complete financial analysis includes an attempt to project future financial statements. These projections can be used in present value-based formulas that help to assess a company's market value, and they are often used internally by companies to establish budgets, standards that can be compared to actual results in the evaluation of management's performance. Used in this way, financial statement projections can motivate management to achieve higher levels of performance.

The process of projecting a future income statement and balance sheet involves the following steps.

1. Predict future sales.
2. Predict future profit margin.
3. Based on the sales prediction, estimate the level of assets necessary to support that level of sales.
4. Choose a target financing mix (liabilities vs. equity).

To illustrate how the process works, consider Kohl's Department Store, which reported the following dollar amounts (in millions) in 2008, 2007, and 2006.

	2008	2007	2006
Sales	**$16,389**	**$16,474**	**$15,597**
Net income	**885**	**1,084**	**1,109**
Total assets	**11,334**	**10,560**	**9,034**
Shareholders' equity	**6,739**	**6,102**	**5,956**

PREDICT FUTURE SALES. Although in the time period 2006–2008 Kohl's grew only about 5 percent, over the past five years sales have grown at an average rate of about 10 percent. We assume 10 percent growth, leading to expected sales for 2009 of $18,028 ($16,389 × 1.1).

PREDICT FUTURE PROFIT MARGIN. Over the past three years net income/sales has been around 6 percent. We assume a 6 percent profit margin, leading to expected 2009 profits of $1,082 ($18,028 × 6%).

ESTIMATED LEVEL OF ASSETS NECESSARY TO SUPPORT SALES. Over the past three years total assets/sales has varied from 58 percent to, most recently, 69 percent. We believe that Kohl's will work to drive this number down (i.e., increase asset turnover), so we assume a 64 percent asset/sales ratio, leading to an expected 2009 total asset investment of $11,538 ($18,028 × 64%).

TARGET FINANCING MIX. Over the last three years shareholders' equity/total assets has varied from 65 percent to around 60 percent, meaning that liabilities have financed from 35 percent to 40 percent of Kohl's assets. We assume that Kohl's will keep the level of liabilities at about 40 percent, leading to total liabilities and shareholders' equity for 2009 of $4,615 ($11,538 × 40%) and $6,923 ($11,538 × 60%), respectively.

This analysis results in the following projected income statement and balance sheet for 2009.

Income Statement	
Sales	**$18,028**
Expenses	**(16,946)**
Net income	**1,082**

Balance Sheet	
Assets	**$11,538**
Liabilities	**4,615**
Shareholders' equity	**6,923**

This simplified example illustrates the basic mechanical process involved in projecting financial statements. Clearly, much more analysis is involved in developing the predictions and estimates of the individual items, and often these predictions include the company's goals and objectives over a much longer time period. In addition, by making more detailed predictions about the timing of cash receipts and payments and about the various financing choices (e.g., dividends, equity issuances, treasury stock purchases), projected statements of cash flow and shareholders' equity can also be prepared.

REVIEW PROBLEM

The information below was taken from the 2009 annual report of Lowe's, a leading retailer in hardware and home improvement products (dollars in millions). From the information, compute the ratios discussed in the chapter (excluding the market ratios) and comment on the change in Lowe's earning power and solvency positions from 2008 to 2009. The company's tax rate during 2008 was approximately 37 percent.

Lowe's Companies, Inc.
Consolidated Statements of Earnings
(In millions, except per share and percentage data)

	January 30, 2009	February 1, 2008	February 2, 2007
Net sales	$48,230	$48,283	$46,927
Cost of sales	31,729	31,556	30,729
Gross margin	16,501	16,727	16,198
Expenses:			
Selling, general and administrative	11,074	10,515	9,738
Store opening costs	102	141	146
Depreciation	1,539	1,366	1,162
Interest	280	194	154
Total expenses	12,995	12,216	11,200
Pre-tax earnings	3,506	4,511	4,998
Income tax provision	1,311	1,702	1,893
Net earnings	$ 2,195	$ 2,809	$ 3,105

See accompanying notes to consolidated financial statements.

Lowe's Companies, Inc.
Consolidated Balance Sheets
(In millions, except par value and percentage data)

	January 30, 2009	February 1, 2008	February 2, 2007
Assets			
Current assets:			
Cash and cash equivalents	$ 245	$ 281	$ 364
Short-term investments	416	249	432
Merchandise inventory—net	8,209	7,611	7,144

(*Continued*)

Lowe's Companies, Inc.
Consolidated Balance Sheets
(In millions, except par value and percentage data)

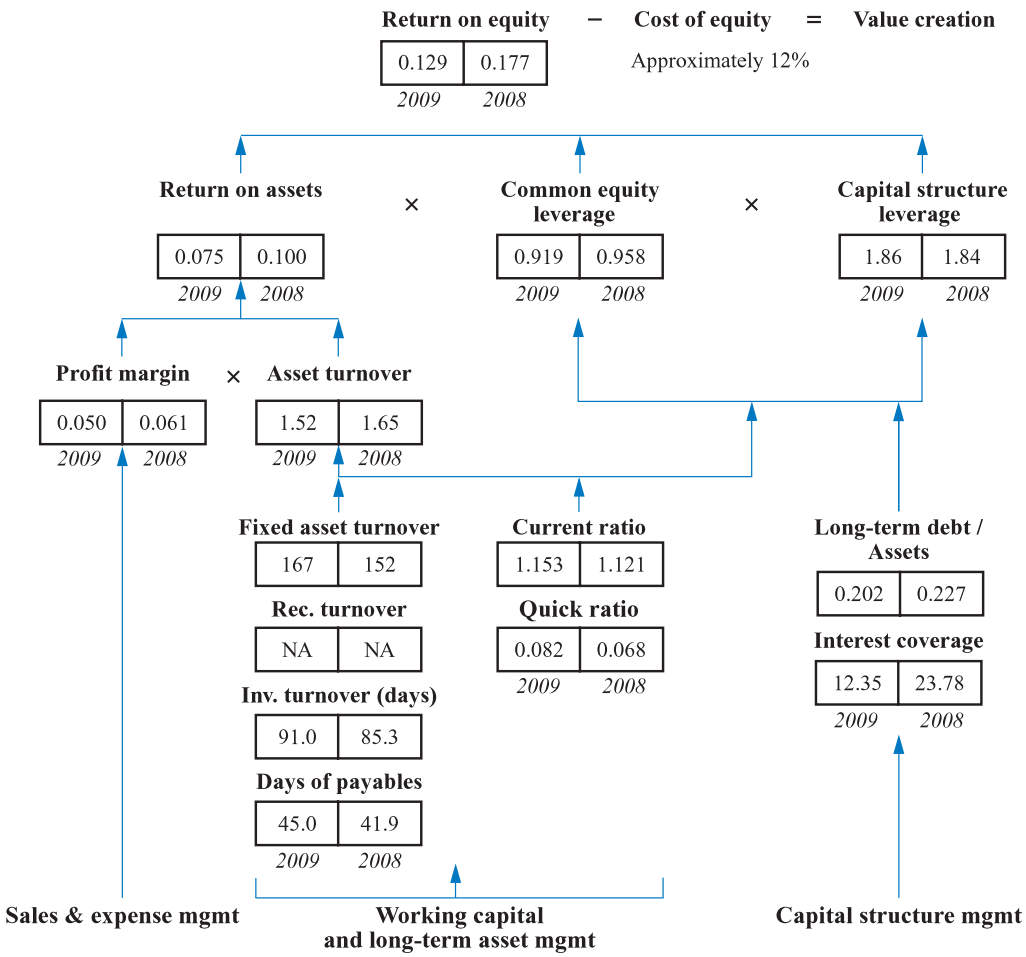
	January 30, 2009	February 1, 2008	February 2, 2007
Deferred income taxes—net	166	247	161
Other current assets	215	298	213
Total current assets	9,251	8,686	8,314
Property, less accumulated depreciation	22,722	21,361	18,971
Long-term investments	253	509	165
Other assets	460	313	317
Total assets	$32,686	$30,869	$27,767
Liabilities and Shareholders' Equity			
Current liabilities:			
Short-term borrowings	$ 987	$ 1,064	$ 23
Current maturities of long-term debt	34	40	88
Accounts payable	4,109	3,713	3,524
Accrued compensation and employee benefits	434	467	425
Self-insurance liabilities	751	671	650
Deferred revenue	674	717	731
Other current liabilities	1,033	1,079	1,098
Total current liabilities	8,022	7,751	6,539
Long-term debt, excluding current maturities	5,039	5,576	4,325
Deferred income taxes—net	660	670	735
Other liabilities	910	774	443
Total liabilities	14,631	14,771	12,042
Shareholders' equity			
Preferred stock—$5 par value, none issued	—	—	—
Common stock—$.50 par value; Shares issued and outstanding January 30, 2009 1,470 February 1, 2008 1,458	735	729	762
Capital in excess of par value	277	16	102
Retained earnings	17,049	15,345	14,860
Accumulated other comprehensive (loss) income	(6)	8	1
Total shareholders' equity	18,055	16,098	15,725
Total liabilities and shareholders' equity	$32,686	$30,869	$27,767

See accompanying notes to consolidated financial statements.

Refer to the following table, which contains the 2009 and 2008 financial ratios for Lowe's. The definitions for the ratios can be found in Figure 5–3. These ratios can also be analyzed using the format described in Appendix 5A (see Figure 5–5).

	2009	2008
Return on Equity	**0.129**	**0.177**
Return on Assets	**0.075**	**0.100**
Return on Sales (Profit margin)	**0.050**	**0.061**
Common Equity Leverage	**0.919**	**0.958**
Capital Structure Leverage	**1.86**	**1.84**
Long-Term Debt Ratio	**0.202**	**0.227**
Current Ratio	**1.153**	**1.121**
Quick Ratio	**0.082**	**0.068**
Interest Coverage	**12.35**	**23.78**
Accounts Payable Turnover (days)	**45.0**	**41.9**
Receivables Turnover	**NA**	**NA**
Inventory Turnover (days)	**91.0**	**85.3**
Fixed Assets Turnover (days)	**167**	**152**
Asset Turnover (times)	**1.52**	**1.65**

FIGURE 5–5 Lowe's Companies ROE framework



The profitability ratios (ROE, ROA, PM) as well as the effectiveness of its leverage (CEL) all dipped during 2009, while Lowe's slightly increased the amount of its leverage (CSL). Overall, asset turnover (AT) slowed, as did both fixed assets and inventory, while Lowe's took more time to pay its suppliers. With respect to solvency, the current ratio increased (mostly due to the increase in inventory levels), and the quick ratio shows that Lowe's became a bit more liquid during the year. Long-term debt remained roughly the same, but the ability of its operations to cover its debt service costs (IC) decreased significantly. In general, Lowe's did not have a very good year. Its ability to create sales from its investment in assets dropped off, as did its ability to control operating costs. Both its earning power and its ability to meet its debts suffered during 2009. On a positive note, however, 2009 was a very difficult year for retailers and Lowe's fared better than most in the industry.

SUMMARY OF KEY POINTS

The key points of the chapter are summarized below.

- *Using financial accounting numbers to influence management decisions and predict future events.*

Financial accounting numbers can be used in two fundamental ways: (1) they help investors, creditors, and other interested parties to influence the business decisions of a company's managers, and (2) they help to predict a company's future cash flows by providing an indication of earning power and solvency.

Investors and creditors use financial accounting numbers to influence managers by requiring that they enter contracts written in terms of financial accounting numbers. Shareholders encourage management to act in their interests by basing management's compensation on profits. Creditors constrain the actions of managers and protect their own interests by writing restrictions, expressed in terms of financial accounting numbers, into loan contracts.

Although financial accounting numbers report on past events, to the extent that past events are an indication of the future, financial accounting numbers can be used to predict a company's future cash flows. The income statement is designed to measure earning power, the balance sheet measures financial condition, and the statement of cash flows can be used to assess solvency—and all of these concepts relate to a company's ability to generate assets in the future.

- *Five steps of financial statement analysis.*

The five steps of financial statement analysis are: (1) assessing business environment, (2) reading and studying the financial statements and footnotes, (3) assessing earnings quality, (4) analyzing the financial statements, and (5) predicting earnings and/or future cash flows.

- *Assessing the business environment.*

The analyst must first learn about the company, its industry, and how the company and industry relate to the overall economy. Such analysis provides a forward-looking perspective on the company and creates a useful context in which to interpret the financial statements. It also helps the analyst to target the important parts of the financial statements for closer examination.

- *Assessing earnings quality and persistence.*

Earnings quality refers to the extent to which the reported financial statements deviate from the true financial condition and performance of the company. For example, since management prepares the reports, a certain bias may exist. There are other inherent limitations associated with the financial statements as well. Assessing earnings quality involves recognizing where these deviations occur and adjusting the statements accordingly.

Earnings persistence refers to the extent to which an income statement item (revenue or expense) is expected to persist in the future. Some items—low persistence—do not occur every year, and these items should be discounted when assessing the future prospects of the company.

- *Analyzing financial statements.*

  Comparison analysis consists of two components: (1) common-size analysis and (2) ratio analysis. Both involve comparisons across time, between companies, and within the financial statements. Ratio analysis consists of computing profitability, leverage, solvency, asset turnover, and other (e.g., market) ratios.

- *Difficulties involved in using annual report information to identify mispriced securities.*

  It is difficult to use annual report information to identify mispriced (under- or overvalued) securities because annual reports are typically not available until several months after the balance sheet date. Important financial information, such as net income, is normally released to the public long before the annual report is published, and market prices react almost instantaneously to such news releases. Consequently, stock prices already reflect much of the annual report information by the time it is available. Notwithstanding the untimely release of the annual report, it is possible—with superior financial statement analysis—to improve a variety of equity and debt investment decisions.

- *Difficulties involved in using financial statements to compare the performance of companies operating in different countries.*

  It is difficult to make meaningful comparisons across companies operating in different countries because of the varying formats of the financial accounting statements, the different accounting methods, and the political, economic, and cultural environment. Analysts must understand these differences and restate the financial statements to comparable bases before analysis can be meaningfully conducted.

KEY TERMS

Note: Definitions for these terms are provided in the glossary at the end of the text.

Business segments (p. 184)
Cash flow analysis (p. 206)
Common-size financial statements (p. 189)
Cost of equity (p. 200)
Creating hidden reserves (p. 189)
Debt/equity ratio (p. 192)
Earnings persistence (p. 183)
Earnings quality (p. 185)
Effective sales and expense management (p. 201)
Effective working capital and long-term asset management (p. 201)
Effective capital structure management (p. 201)
Financial flexibility (p. 207)
Leverage (p. 191)
Liquidity (p. 207)
Off-balance-sheet financing (p. 186)
Operating performance (p. 207)
Overstating the performance (p. 185)
Profitability ratios (p. 190)
Ratio analysis (p. 190)
Return on equity (p. 200)
Solvency assessment (p. 206)
Shareholder value creation (p. 200)
Standard audit report (p. 182)
Taking a bath (p. 185)

ETHICS in the Real World

Fortune magazine examined a series of published articles that explored increasingly common, and somewhat shady, business practices in the Internet world. These practices included: (1) how dot-coms intentionally inflate revenues, (2) how CEOs buy and sell large amounts of their own company's stock, (3) how boards of directors are often overly influenced by company management, and (4) how analysts who follow Internet companies are sometimes influenced by a company to make overly optimistic assessments of its future prospects.

ETHICAL ISSUE Why are these four business practices a possible violation of ethical business behavior?

INTERNET RESEARCH EXERCISE

Provide a brief description of Thomson Financial Network and explain what kind of information it provides for analysts. How might analysts use this information, and why are company managers interested in the information provided by Thomson about their companies? Begin your search at www.thomsonreuters.com.

BRIEF EXERCISES

REAL DATA

BE5–1

Analyzing financial statements

The following information was taken from the financial statements of Coca-Cola and PepsiCo (dollar amounts in millions). Tax rates for Coca-Cola and Pepsi were 22 percent and 27 percent, respectively.

Coca-Cola	2008	2007
Income Statement		
Sales	$31,944	$28,857
Interest expense	438	456
Net income	5,807	5,981
Balance Sheet		
Assets	$40,519	$43,269
Shareholders' equity	20,472	21,744

PepsiCo	2008	2007
Income Statement		
Sales	$43,251	$39,474
Interest expense	329	224
Net income	5,142	5,658
Balance Sheet		
Assets	$35,994	$34,628
Shareholders' equity	12,203	17,325

a. Compute return on equity, return on assets, common equity leverage, capital structure leverage, profit margin, and asset turnover for each company for 2008. Discuss the comparison.
b. (Appendix 5A) For each company, what number results from the following: return on assets × common equity leverage × capital structure leverage?
c. (Appendix 5A) For each company, what number results from the following: profit margin × asset turnover?
d. (Appendix 5A) Compare Coca-Cola to PepsiCo. Which company has the higher return on equity and why? Which company has the higher return on assets and why? Discuss whether the two companies are creating shareholder value.

REAL DATA

BE5–2

Segment analysis

The following sales information concerning Johnson & Johnson's primary business segments appeared in the company's 2008 SEC Form 10-K (dollars in millions).

	2008	2007	2006
Consumer			
U.S.	$ 6,937	$ 6,408	$ 4,573
International	9,117	8,085	5,201
Pharmaceutical			
U.S.	14,831	15,603	15,092
International	9,736	9,263	8,175
Medical Devices			
U.S.	10,541	10,433	10,110
International	12,585	11,303	10,173

a. Which of the three primary business segments is the largest, and which of the three grew the most from 2006 to 2008?
b. What percentage of Johnson & Johnson's total sales was generated in each of the three years outside the United States?
c. Which of the three primary business segments generates the greatest percentage of sales outside the United States?

EXERCISES

REAL DATA
E5–1
Analyzing financial statements

Excerpts from the 2008 financial report of Cisco Systems, a leading Internet networker, are provided below (dollars in millions).

Review the information, calculate relevant ratios from Figure 5–3, and explain why Cisco appears to be a good or poor investment. The tax rate was 20 percent.

	2008	2007	2006
Balance Sheet			
Current assets	$44,177	$35,699	$31,574
Long-term assets	23,951	23,035	21,766
Current liabilities	13,655	13,858	13,358
Long-term debt	15,826	10,523	8,502
Shareholders' equity	38,647	34,353	31,480
Income Statement			
Sales	$29,131	$33,099	$29,462
Net income	6,134	8,052	7,333
Interest expense	346	319	377

REAL DATA
E5–2
Analyzing financial statements

Excerpts from the 2008 financial report of Intel, a computer-processor manufacturer, are as follows (dollars in millions).

	2008	2007	2006
Balance Sheet			
Current assets	$19,871	$23,885	$18,280
Long-term assets	30,844	31,766	30,088
Current liabilities	7,818	8,571	8,514
Long-term debt	3,809	4,318	3,102
Shareholders' equity	39,088	42,762	36,752

(*Continued*)

	2008	2007	2006
Income Statement			
Sales	$37,586	$38,334	$35,382
Net income	5,292	6,976	5,044
Interest expense	8	15	24

Review this information, calculate relevant ratios from Figure 5–3, and explain why Intel appears to be a good or poor investment. The tax rate was 31 percent.

E5–3
Analyzing financial statements

The chief executive officer of Ginny's Fashions has included the following financial statements in a loan application submitted to Priority Bank. The company intends to acquire additional equipment and wishes to finance the purchase with a long-term note.

	2012	2011
Balance Sheet		
Current assets	$ 21,000	$ 14,000
Long-term assets	52,000	50,000
Current liabilities	9,000	7,000
Long-term liabilities	24,000	26,000
Contributed capital	25,000	25,000
Retained earnings	15,000	6,000
Income Statement		
Revenues	$ 74,000	$ 70,000
Expenses	56,000	53,000
Statement of Cash Flows		
Net cash from operating activities	$ 9,000	$ 15,000
Net cash from investing activities	(12,000)	(14,000)
Net cash from financing activities	5,000	7,000
Change in cash balance	$ 2,000	$ 8,000
Beginning cash balance	9,000	1,000
Ending cash balance	$ 11,000	$ 9,000

Assume that you, a bank loan officer, review the financial statements, and recommend whether Ginny's Fashions should be considered for a loan. Support your recommendation with financial ratios. Assume a tax rate of 30 percent. Interest expense is $2,000 in 2012 and $2,000 in 2011.

E5–4
Computing ratios and preparing common-size financial statements

The 2011 and 2012 financial statements of Ken's Sportswear follow:

Balance Sheet	2012	2011
Assets		
Cash	$ 9,000	$ 7,000
Accounts receivable	12,000	9,000
Inventory	18,000	15,000
Long-lived assets (net)	60,000	50,000
Total assets	$99,000	$81,000

(*Continued*)

Balance Sheet	2012	2011
Liabilities and Shareholders' Equity		
Accounts payable	$16,500	$12,000
Long-term liabilities	46,000	40,000
Common stock	20,000	20,000
Additional paid-in capital	5,000	5,000
Retained earnings	11,500	4,000
Total liabilities and equity	$99,000	$81,000

Income Statement	2012	2011
Sales (all on credit)	$72,000	
Less: Cost of goods sold	30,000	
Gross profit	$42,000	
Operating expenses	12,000	
Net income from operations	$30,000	
Interest expense	5,000	
Net income before taxes	$25,000	
Income taxes	8,500	
Net income	$16,500	
Dividends	$ 9,000	
Per-share market price	$ 36	$ 30
Outstanding common shares	2,000	2,000

a. Compute all relevant ratios for 2012.
b. Prepare common-size financial statements.
c. Evaluate the company's financial performance and condition.

REAL DATA

E5–5

Solvency and the role of activity ratios

Excerpted financial information from the records of The Gap, Inc., a major clothing retailer, follows (dollars in millions):

	2008	2007	2006
Inventory	$ 1,506	$ 1,575	$ 1,796
Current assets	4,005	4,086	5,029
Accounts payable	975	1,006	772
Current liabilities	2,158	2,433	2,272
Sales	$14,526	$15,763	$15,923
Cost of goods sold	9,079	10,071	10,266

a. Compute the current ratio for each year.
b. Compute the gross margin for each year.
c. Compute inventory turnover and inventory days for 2007 and 2008; compute accounts payable turnover and accounts payable days for 2007 and 2008.
d. Comment on the company's solvency trend.

E5–6

Solvency and the statemnet of cash flow

Beecham Limited began operations in early 2010. Summaries of the statements of cash flows for 2012, 2011, and 2010 follow:

	2012	2011	2010
Net cash provided (used) by operating activities	$?	$(252)	$?
Net cash provided (used) by investing activities	150	?	$(400)
Net cash provided (used) by financing activities	(200)	400	800
Net increase (decrease) in cash balance	$?	$ (2)	$ 78
Beginning cash balance	76	?	0
Ending cash balance	$ 156	$ 76	$?

a. Compute the missing dollar amounts, and briefly comment on the company's cash management policies during the three-year period.
b. Does the company appear to have faced any solvency problems during the period? Explain your answer.

E5–7

Using solvency and activity ratios together

The following data are from the 2012 financial report of Generic Clothing Company:

	2012	2011
Current assets:		
Cash	$ 15,000	$ 30,000
Short-term marketable securities	225,000	10,000
Accounts receivable (net)	90,000	95,000
Inventory	50,000	225,000
Prepaid insurance	20,000	25,000
Total current assets	$400,000	$385,000
Current liabilities:		
Accounts payable	$ 75,000	$ 60,000
Wages payable	10,000	10,000
Current portion of long-term debt	375,000	100,000
Total current liabilities	$460,000	$170,000

a. Based upon the above data, compute the following for Generic Clothing Company for both 2011 and 2012:
   (1) The current ratio
   (2) The quick ratio
b. Assume that net credit sales for the years ended December 31, 2011, and 2012, were $780,000 and $800,000, respectively, and that the balance of accounts receivable as of January 1, 2012, was $100,000. Compute the receivables turnover and days outstanding for both years.
c. Does it appear that the solvency position of the company improved or worsened from 2010 to 2012? Explain.

E5–8

Explaining return on equity with inventory turnover

PLP Corporation began operations on January 1, 2009. The initial investment by the owners was $100,000. The following information was extracted from the company's records.

	Net Income	December 31 Shareholders' Equity	December 31 Inventory	Cost of Goods Sold
2009	$510,000	$100,000	$200,000	$1,200,000
2010	490,000	290,000	255,000	1,350,000
2011	515,000	315,000	320,000	1,395,000
2012	505,000	510,000	365,000	1,400,000

a. Compute the return on equity for each year. Has the company been effective at managing the capital provided by the equity owners?
b. Does the information about inventory and the cost of goods sold indicate any reason for the trend in return on equity? Support your answer with any relevant ratios.

E5–9

Using ratios and the statement of cash flows to assess solvency and earning power

The financial information below was taken from the records of Lotechnic Enterprises. The company pays no dividends.

	2012	2011	2010	2009
Current assets	$ 35,000	$ 31,000	$24,000	$20,000
Non-current assets	93,000	86,000	64,000	33,000
Total assets	$128,000	$117,000	$88,000	$53,000

(*Continued*)

	2012	2011	2010	2009
Current liabilities	$ 30,000	$ 25,000	$ 13,000	$ 8,000
Long-term liabilities	40,000	40,000	35,000	15,000
Capital stock	20,000	20,000	20,000	20,000
Retained earnings	38,000	32,000	20,000	10,000
Total liabilities and shareholders' equity	$128,000	$117,000	$ 88,000	$53,000
Net cash provided (used) by operating activities	$ (2,000)	$ 3,000	$ 6,000	$ 7,000
Net cash provided (used) by investing activities	(10,000)	(20,000)	(31,000)	(12,000)
Net cash provided (used) by financing activities	15,000	15,000	25,000	8,000
Net increase (decrease) in cash	$ 3,000	$ (2,000)	$ 0	$ 3,000
Interest expense	$ 5,000	$ 5,000	$ 4,000	$ 2,000
Net income	24,000	21,000	14,000	13,000

a. Compute the current ratio, the debt/equity ratio, and return on assets for each of the four years. Assume that the year-end balances in 2009 reflect the average balances during the year. Assume a tax rate of 30 percent.
b. Prepare a common-size balance sheet for each of the four years.
c. Use the statement of cash flows, and analyze the earning power and solvency positions of Lotechnic.

REAL DATA

E5–10

The effects of transactions on financial ratios

Monsanto Company, a leading global chemical manufacturer, entered into the following transactions during 2009.

1. Purchased inventory on account.
2. Purchased plant machinery by issuing long-term debt.
3. Made a principal payment on long-term debt.
4. Paid wages.
5. Sold inventory on account for 20 percent over cost.
6. Issued stock for cash.

The 2008 balance sheet of Monsanto is as follows (dollars in millions).

Assets		Liabilities and Shareholders' Equity	
Cash and marketable securities	$ 1,956	Current liabilities	$ 3,756
Other current assets	5,927	Long-term liabilities	4,065
Long-lived assets	9,994	Shareholders' equity	10,056
		Total liabilities and	
Total assets	$17,877	shareholders' equity	$17,877

Fill in a chart like the following one by indicating whether each transaction would increase (+), decrease (−), or have no effect (NE) on the quick ratio, current ratio, and debt/equity ratio. Treat each transaction independently.

Transaction	Quick Ratio	Current Ratio	Debt/Equity Ratio
1.			

E5–11

Debt covenants limiting additional debt and dividend payments

At the end of 2011, Montvale Associates borrowed $120,000 from the Bayliner Bank. The debt covenant specified that Montvale's debt/equity ratio could not exceed 1.5:1 during the period of the loan. A summary of Montvale's balance sheet after the loan follows.

	2011
Assets	
Current assets	**$130,000**
Noncurrent assets	**350,000**
Total assets	**$480,000**
Liabilities and Shareholders' Equity	
Current liabilities	**$130,000**
Long-term liabilities	**150,000**
Shareholders' equity	**200,000**
Total liabilities and shareholders' equity	**$480,000**

a. Compute Montvale's debt/equity ratio immediately after the loan.
b. How much additional debt can the company incur without violating the debt covenant?
c. How large a dividend can the company declare and pay at the end of 2011 without violating the debt covenant?
d. If Montvale had declared, but not yet paid, a $20,000 dividend before it took out the loan, could the company pay the dividend afterward without violating the debt covenant? Why or why not?

REAL DATA
E5–12
Examining market ratios over time

The following information refers to the financial records of McDonald's Corporation over a three-year period (dollar amounts in millions except share price).

	2008	2007	2006
Net income	**$4,313**	**$2,395**	**$3,544**
Dividends declared	**1,823**	**1,766**	**1,217**
Closing per-share price	**62.19**	**58.91**	**44.33**
Number of shares outstanding	**1,127**	**1,188**	**1,234**

a. Compute dividends declared as a percentage of net income during each of the three years.
b. Compute the price-earnings ratio, dividend yield, and stock price return for 2006, 2007, and 2008.
c. Comment on the performance of an investment in McDonald's stock from 2006 to 2008.

REAL DATA
E5–13
Computing ratios and the effect of transactions on return on equity

Merck, a major pharmaceutical, generated $7,808 million in net income for the year ended December 31, 2008.

1. The company declared and paid $3,278.5 million in dividends during 2008.
2. Merck stock was selling for $57.37 per share on January 1, 2008, and for $30.40 per share on December 31, 2008.
3. As of January 1, 2008, the company had 2,169 million shares of common stock outstanding. During 2008, the company repurchased 35.7 million shares. Assume that the purchases were made evenly throughout the year.

a. Compute the following ratios:
   (1) Earnings per share
   (2) Price/earnings
   (3) Dividend yield
   (4) Stock price return
b. What effect (increase, decrease, or no effect) did each of the three events above have on Merck's return on equity ratio?

REAL DATA
E5–14
Segment analysis

The operating profits from 2006 to 2008 reported by each of Johnson & Johnson's primary business segments are provided below. Sales numbers for each of the segments are provided in BE5–2 of the Brief Exercises section of this chapter (dollars in millions).

	2008	2007	2006
Consumer	**$2,674**	**$2,277**	**$1,374**
Pharmaceutical	**7,605**	**6,540**	**6,894**
Medical devices	**7,223**	**4,846**	**6,126**

REQUIRED:

a. Which of the segments is the most profitable as a percentage of sales?
b. Which of the segments reports the fastest growth in profitability?

E5–15

Appendix 5A: Interpreting financial ratios

The following ratios were computed from the financial statements of INSEAD Incorporated:

	2012	2011	2010
Return on equity	**0.28**	**0.25**	**0.22**
Return on assets	**0.15**	**0.18**	**0.20**
Common equity leverage	**0.85**	**0.88**	**0.90**
Capital structure leverage	**2.20**	**1.58**	**1.22**
Profit margin	**0.09**	**0.08**	**0.07**
Asset turnover	**1.67**	**2.25**	**2.85**

Use the ROE model to analyze these ratios, and comment on the company's performance from 2010 to 2012 and why.

E5–16

Appendix 5A: Interpreting financial ratios

The following ratios were computed from the financial statements of LBS Products:

	2012	2011	2010
Return on equity	**0.11**	**0.18**	**0.20**
Return on assets	**0.09**	**0.18**	**0.20**
Common equity leverage	**0.80**	**0.78**	**0.78**
Capital structure leverage	**1.50**	**1.30**	**1.30**
Profit margin	**0.06**	**0.13**	**0.13**
Asset turnover	**1.50**	**1.40**	**1.50**

Use the ROE model to analyze these ratios, and comment on the company's performance from 2010 to 2012 and why.

E5–17

Appendix 5A

Assume that the following financial ratios are calculated for Royals Corporation in 2012:

Asset turnover	**0.625**
Common equity leverage	**0.685**
Capital structure leverage	**2.50**
Return on assets	**9.50%**
Return on sales (profit margin)	**15.20%**

a. What was the return on equity for Royals Corporation in 2012?
b. If Royals Corporation keeps all of its other ratios constant in 2013 but increases its capital structure leverage ratio to 2.75, what will be the 2013 return on equity?
c. If Royals Corporation keeps all of its other ratios constant in 2013 but increases its profit margin to 16%, what will be the 2013 return on equity?

REAL DATA

E5–18

Appendix 5A: Projected financial statements

Selected financial information appearing in the SEC Form 10-K for Johnson & Johnson is reported below (dollars in millions).

	2008
Sales	**$63,747**
Net income	**12,949**
Total assets	**84,912**
Total shareholders' equity	**42,511**

REQUIRED:

Assume that company management expects sales growth of 8 percent during 2009, and during 2009 expects stable relationships between net income and sales, sales and total assets, and debt/equity. Prepare a projected income statement and balance sheet for 2009.

PROBLEMS

REAL DATA

P5–1

Computing and interpreting ratios

Imation, a global technology company, reported the following selected items as part of its 2008 annual report (dollars in millions):

	2008	2007
Cash	$ 97	$ 140
Accounts receivable	378	507
Inventory	363	366
Current assets	976	1,119
Current liabilities	504	631
Shareholders' equity	945	1,054
Sales	$2,155	
Cost of goods sold	1,805	
Interest expense	2	
Net loss before taxes	(35)	
Net loss	(33)	

REQUIRED:

Compute the following ratios:

1. Current ratio
2. Quick ratio
3. Receivable turnover (time and days)
4. Interest coverage
5. Return on assets
6. Inventory turnover (times and days)
7. Return on equity

P5–2

Borrow or issue equity: effects on financial ratios

Edgemont Repairs began operations on January 1, 2010. The 2010, 2011, and 2012 financial statements follow:

	2012	2011	2010
Assets			
Current assets	$ 30,000	$10,000	$ 8,000
Noncurrent assets	83,000	45,000	41,000
Total assets	$113,000	$55,000	$49,000
Liabilities and Shareholders' Equity			
Current liabilities	$ 12,000	$ 7,000	$ 5,000
Long-term liabilities	50,000	10,000	10,000
Shareholders' equity	51,000	38,000	34,000
Total liabilities and shareholders' equity	$113,000	$55,000	$49,000
Revenues	$ 70,000	$45,000	$37,000
Operating expenses	27,000	24,000	24,000

(*Continued*)

	2012	2011	2010
Interest expense	5,000	1,000	1,000
Income taxes	13,000	6,000	6,000
Net income	$ 25,000	$14,000	$ 6,000
Dividends	$ 12,000	$10,000	$ 2,000
Number of shares outstanding	10,000	10,000	10,000

On January 1, 2012, the company expanded operations by taking out a $40,000 long-term loan at a 10 percent annual interest rate.

REQUIRED:

a. Compute return on equity, return on assets, common equity leverage, capital structure leverage, profit margin, and asset turnover.
b. On January 1, 2012, the company's common stock was selling for $20 per share. Assume that Edgemont issued 2,000 shares of stock, instead of borrowing the $40,000, to raise the cash needed to pay for the January 1 expansion. Recompute the ratios in (a) for 2012. Ignore any tax effects.
c. Should the company have issued the equity instead of borrowing the funds? Explain.

REAL DATA
P5–3
Percentage changes and common-size financial statements

You are considering investing in Eli Lilly, a major pharmaceutical company. As part of your investigation of Lilly, you obtained the following balance sheets for the years ended December 31, 2008 and 2007 (dollars in millions):

	2008	2007
Assets		
Current assets:		
Cash	$ 5,497	$ 3,221
Short-term marketable securities	429	1,611
Accounts receivable	2,779	2,674
Inventory	2,493	2,524
Other current assets	1,255	2,286
Total current assets	$12,453	$12,316
Property, plant, and equipment	8,626	8,575
Other assets	8,134	5,984
Total assets	$29,213	$26,875
Liabilities and Shareholders' Equity		
Current liabilities:		
Short-term borrowings	$ 5,846	$ 414
Accounts payable	886	924
Wages payable	771	824
Dividends payable	537	514
Income taxes payable	229	238
Other current liabilities	4,841	2,523
Total current liabilities	$13,110	$ 5,437
Long-term debt	9,368	7,934
Contributed capital*	(902)	1,697
Retained earnings	7,655	11,807
Total liabilities and shareholders' equity	$29,213	$26,875

*Net, including treasury stock and other adjustments.

REQUIRED:

a. Compute the dollar change in each account from 2007 to 2008. Also compute the percentage change in each account from 2007 to 2008.

b. Convert the balance sheets to common-size balance sheets. Also compute the percentage change in the common-size numbers of each account from 2007 to 2008.
c. Does the information in (b) provide any additional data to that in (a)? Explain.

P5–4
Comprehensive ratio analysis

You have just been hired as a stock analyst for a large stock brokerage company. Your first assignment is to analyze the performance of Gidley Electronics. The company's balance sheet for 2011 and 2012 is presented below and on the next page.

	2012	2011
Assets		
Current assets:		
Cash	$ 110,000	$ 115,000
Short-term marketable securities	175,000	220,000
Accounts receivable	350,000	400,000
Inventory	290,000	240,000
Prepaid expenses	55,000	35,000
Total current assets	$ 980,000	$1,010,000
Property, plant, and equipment	650,000	590,000
Less: Accumulated depreciation	(165,000)	(130,000)
Total assets	$1,465,000	$1,470,000
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 60,000	$ 50,000
Wages payable	15,000	20,000
Unearned revenue	50,000	35,000
Income taxes payable	55,000	35,000
Current portion of long-term debt	110,000	135,000
Total current liabilities	$ 290,000	$ 275,000
Bonds payable	380,000	440,000
Common stock ($10 par value)	220,000	170,000
Additional paid-in capital	145,000	115,000
Retained earnings	430,000	470,000
Total liabilities and shareholders' equity	$1,465,000	$1,470,000

The company's income statement and reconciliation of retained earnings for the years ended December 31, 2011 and 2012, are presented below.

	2012	2011
Income Statement		
Revenue:		
Net cash sales	$1,405,000	$1,255,000
Net credit sales	2,450,000	3,010,000
Total revenue	$3,855,000	$4,265,000
Cost of goods sold:		
Beginning inventory	$ 240,000	$ 300,000
Net purchases	1,755,000	2,005,000
Cost of goods available for sale	$1,995,000	$2,305,000
Less: Ending inventory	290,000	240,000
Cost of goods sold	$1,705,000	$2,065,000
Gross profit	$2,150,000	$2,200,000

(*Continued*)

	2012	2011
Selling and administrative expenses:		
Depreciation expense	(95,000)	(100,000)
General selling expenses	(470,000)	(450,000)
General administrative expenses	(580,000)	(620,000)
Net operating income	$1,005,000	$1,030,000
Interest expense	150,000	165,000
Net income from continuing operations before taxes	$ 855,000	$ 865,000
Income taxes	345,000	350,000
Net income	$ 510,000	$ 515,000
Reconciliation of Retained Earnings		
Beginning retained earnings balance	$ 470,000	$ 165,000
Plus: Net income	510,000	515,000
Less: Dividends	(550,000)	(210,000)
Ending retained earnings balance	$ 430,000	$ 470,000

The market prices of the company's stock as of January 1, 2011, December 31, 2011, and December 31, 2012, were $65, $69, and $54 per share, respectively. The January 1, 2011, balance in shareholders' equity was $450,000, there were no changes in the number of common shares outstanding or in accounts receivable during 2011, and the income tax rate was 40 percent for 2011 and 2012. Total assets as of January 1, 2011, were $1,450,000.

REQUIRED:

Answer the following questions (including any relevant ratios in your answers) for both 2011 and 2012. Unless the December 31, 2010, balance is provided, assume that the December 31, 2011, balance reflects the average balance during 2011.

1. How effective is the company at managing investments made by the equity owners?
2. Is the company using debt in the best interests of the equity owners?
3. Can the company meet its current obligations using current assets? Using cash-like assets?
4. How sensitive are stock prices to changes in earnings?
5. How many days is the average account receivable outstanding? Are the days outstanding increasing or decreasing?

P5–5

Comparing companies on earning power

The following information was obtained from the 2012 financial reports of Hathaway Toy Company and Yakima Manufacturing:

	Hathaway Toy	Yakima Mfg.
Interest expense	—	$ 195,000
Net income	$ 875,000	755,000
Current liabilities	240,000	25,000
Mortgage payable	—	1,850,000
Common stock ($10 par value)	800,000	350,000
Additional paid-in capital	915,000	150,000
Retained earnings	745,000	325,000
Total liabilities and shareholders' equity	$2,700,000	$2,700,000

Assume that the only change to shareholders' equity during 2012 is due to net income earned in 2012.

REQUIRED:

a. Which company is more effective at managing the capital provided by the owners?
b. Which company is more effective at managing capital provided by all investors?
c. Compute the earnings per share for each company.
d. Is Yakima Manufacturing using its debt effectively for the equity owners?

REAL DATA

P5–6

Analyzing financial statements

Excerpts from the 2008 financial statements for Goodyear are as follows (dollars in millions):

	2008	2007	2006
Balance Sheet			
Current assets	$ 8,340	$10,172	$10,179
Long-term assets	6,886	7,019	6,850
Current liabilities	4,779	4,664	4,666
Long-term liabilities	9,425	9,677	13,121
Contributed capital	(503)	1,248	(1,726)
Retained earnings	1,525	1,602	968
Income Statement			
Revenues	$19,488	$19,644	$18,751
Expenses	19,505	19,042	19,081
Statement of Cash Flows			
Net cash from operating activities	$ (745)	$ 105	$ 560
Net cash from investing activities	(1,136)	(829)	(532)
Net cash from financing activities	312	(1,333)	1,696
Change in cash balance	$ (1,569)	$ (399)	$ 1,724
Beginning cash balance	3,463	3,862	2,138
Ending cash balance	$ 1,894	$ 3,463	$ 3,862

REQUIRED:

Assume that you have some capital to invest and that you are considering an equity investment in Goodyear. Review the financial statements and comment on Goodyear as an investment. Support your recommendation with financial ratios. Assume a tax rate of 30 percent. Interest expense is $320 in 2008, $450 in 2007, and $447 in 2006.

P5–7

Unusual items and financial ratios

The following selected financial information was obtained from the 2012 financial reports of Robotronics, Inc. and Technology, Limited:

	Robotronics, Inc.	Technology, Ltd.
Interest expense	$ 100,000	$ 175,000
Unusual gain (net of taxes of $320,000)	—	1,300,000
Net income (including unusual items)	610,000	1,675,000
Current liabilities	140,000	25,000
Bonds payable	725,000	0
Mortgage payable	1,490,000	405,000
Common stock	500,000	600,000
Additional paid-in capital	215,000	325,000
Retained earnings	290,000	515,000
Total liabilities and shareholders' equity	$3,360,000	$1,870,000

Assume that total assets, total liabilities, and total shareholders' equity were constant throughout 2012.

REQUIRED:

a. Assume that you are considering purchasing the common stock of one of these companies. Which company has a higher return on equity? Would your conclusion be different if the impact of the unusual item had not been included in net income? Should unusual items be considered? Why or why not?

b. Which company uses leverage more effectively? Does your answer change if you do not consider the impact of the unusual item on net income?

P5–8

Preparing the financial statements from financial ratios

Tumwater Canyon Campsites began operations on January 1, 2012. The following information is available at year-end. Assume that all sales were on credit.

Net income	**$ 25,000**	**Return on sales**	**8%**
Receivables turnover	**8**	**Gross margin**	**40%**
Inventory turnover	**5**	**Quick ratio**	**50%**
Accounts payable	**$200,000**		

REQUIRED:

Prepare an income statement and the current asset and current liability portions of the balance sheet for 2012. Current assets consist of cash, accounts receivable, and inventory. Accounts payable is Tumwater's only current liability. (*Hint:* Begin by using return on sales to compute net sales.)

P5–9

Common-size financial statements

Bob Cleary, the controller of Mountain-Pacific Railroad, has prepared the financial statements for 2011 and 2012, shown below and on the next page. The market prices of the company's stock as of January 1, 2011, December 31, 2011, and December 31, 2012, were $50, $45, and $70 per share, respectively. Assume an income tax rate of 34 percent and assume that interest expense was incurred only on long-term debt (including the current maturities of long-term debt).

REQUIRED:

a. Prepare common-size balance sheets and income statements for 2011 and 2012 and analyze the results.
b. Which income statement account experienced the largest shift from 2011 to 2012? Did this shift appear to have any impact on the balance sheet? Explain.
c. What benefits do common-size financial statements provide over standard financial statements?

Balance Sheet	**2012**	**2011**
Assets		
Current assets:		
Cash	**$ 10,000**	**$ 312,000**
Short-term marketable securities	**125,000**	**120,000**
Accounts receivable	**500,000**	**150,000**
Inventory	**200,000**	**210,000**
Prepaid expenses	**50,000**	**75,000**
Total current assets	**$ 885,000**	**$ 867,000**
Long-term investments	**225,000**	**225,000**
Property, plant, and equipment	**430,000**	**540,000**
Less: Accumulated depreciation	**(65,000)**	**(100,000)**
Total assets	**$1,475,000**	**$1,532,000**
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	**$ 10,000**	**$ 50,000**
Wages payable	**5,000**	**2,000**
Dividends payable	**125,000**	**5,000**
Income taxes payable	**50,000**	**35,000**
Current portion of long-term debt	**100,000**	**175,000**
Total current liabilities	**$ 290,000**	**$ 267,000**
Mortgage payable	**350,000**	**450,000**
Common stock ($10 par value)	**200,000**	**110,000**
Additional paid-in capital	**135,000**	**95,000**
Retained earnings	**500,000**	**610,000**
Total liabilities and shareholders' equity	**$1,475,000**	**$1,532,000**

Income Statement	2012		2011	
Revenue:				
Net cash sales	$1,955,000		$2,775,000	
Net credit sales	4,150,000		1,410,000	
Total revenue		$6,105,000		$4,185,000
Cost of goods sold:				
Beginning inventory	$ 210,000		$ 300,000	
Net purchases	4,005,000		2,475,000	
Cost of goods available for sale	$4,215,000		$2,775,000	
Less: Ending inventory	200,000		210,000	
Cost of goods sold		4,015,000		2,565,000
Gross profit		$2,090,000		$1,620,000
Selling and administrative expenses:				
Depreciation expense	$ 75,000		$ 90,000	
General selling expenses	575,000		600,000	
General administrative expenses	480,000	1,130,000	420,000	1,110,000
Net operating income		$ 960,000		$ 510,000
Interest expense		50,000		65,000
Net income from continuing operations before taxes		$ 910,000		$ 445,000
Income taxes		310,000		151,000
Net income before unusual items		$ 600,000		$ 294,000
Unusual loss—net of tax benefit of $60,000		115,000		—
Net income		$ 485,000		$ 294,000

Statement of Retained Earnings	2012	2011
Beginning retained earnings balance	$ 610,000	$ 326,000
Plus: Net income	485,000	294,000
Less: Dividends	(595,000)	(10,000)
Ending retained earnings balance	$ 500,000	$ 610,000

P5–10

Comparing ratios to industry averages

Mountain-Pacific Railroad, whose financial statements are presented in P5–9, is interested in comparing itself to the rest of the industry. Bob Cleary, the controller, has obtained the following industry averages from a trade journal. (The industry averages were the same for 2011 and 2012.)

Return on equity	0.500
Current ratio	3.100
Quick ratio	1.850
Return on assets	0.300
Receivables turnover	8.150
Earnings per share ($)	41.150
Price/earnings ratio	0.451
Capital structure leverage	1.770
Profit margin	0.072
Dividend yield	0.375
Return on investment	0.102
Interest coverage	9.890
Inventory turnover	21.700

REQUIRED:

a. Compute these ratios for Mountain-Pacific Railroad for both 2011 (using year-end balances) and 2012 (using average balances where appropriate). Identify significant trends. Could the company experience solvency problems? Explain.
b. Compare the ratios of Mountain-Pacific Railroad to the industry averages. Do you think that Mountain-Pacific Railroad is doing better, worse, or the same as the industry? Explain your answer, being as specific as possible.

P5–11

Assessing the loan risk of a potential bank customer

You have just been hired as a loan officer for Washington Mutual Savings. Selig Equipment and Mountain Bike, Inc. have both applied for $125,000 nine-month loans to acquire additional plant equipment. Neither company offered any security for the loans. It is the strict policy of the bank to have only $1,350,000 outstanding in unsecured loans at any point in time. Since the bank currently has $1,210,000 in unsecured loans outstanding, it will be unable to grant loans to both companies. The bank president has given you the following selected information from the companies' loan applications.

	Selig Equipment	Mountain Bike, Inc.
Cash	$ 15,000	$ 160,000
Accounts receivable	215,000	470,000
Inventory	305,000	195,000
Prepaid expenses	180,000	10,000
Total current assets	$ 715,000	$ 835,000
Noncurrent assets	1,455,000	1,875,000
Total assets	$2,170,000	$2,710,000
Current liabilities	$ 285,000	$ 325,000
Long-term liabilities	950,000	875,000
Contributed capital	790,000	910,000
Retained earnings	145,000	600,000
Total liabilities and shareholders' equity	$2,170,000	$2,710,000
Net credit sales	$1,005,000	$1,625,000
Cost of goods sold	755,000	960,000

REQUIRED:

Assume that all account balances on the balance sheet are representative of the entire year. Based on this limited information, which company would you recommend to the bank president as the better risk for an unsecured loan? Support your answer with any relevant analysis.

P5–12

Issuing debt or equity: effects on ratios and owners

Watson Metal Products is planning to expand its operations to France in response to increased demand from the French for quality metal products to use in production processes. Ben Watson, president of Watson Metal Products, and his consultants have estimated that the expansion will require an investment of $5 million. They have also estimated that this expansion will cause net income before interest expense to increase by $1,500,000. The company is considering financing the expansion through one of the following alternatives.

Alternative 1: **Issue 200,000 shares of common stock for $25 per share.**
Alternative 2: **Issue long-term debt at an annual interest cost of 15 percent. The principal would be payable in ten years.**
Alternative 3: **Issue 100,000 shares of common stock for $25 per share and finance the remainder by issuing long-term debt at an annual interest rate of 15 percent. The principal would be payable in ten years.**

The income statement for the year ended December 31, 2012, of Watson Metal Products was as follows:

Sales	**$150,000,000**
Cost of goods sold	**(90,000,000)**
Other expenses	**(45,000,000)**
Income from operations	**$ 15,000,000**
Interest expense	**4,000,000**
Net income before taxes	**$ 11,000,000**
Income taxes	**4,400,000**
Net income	**$ 6,600,000**
Earnings per share	**$ 3.30**

Prior to the expansion, the total debt of Watson Metal Products was $35 million, and total shareholders' equity was $45 million. There were no changes in total debt and total shareholders' equity other than those due to net income and the expansion project. Federal and state income tax rates total 40 percent.

REQUIRED:

a. Assume that the company's net income from non-French operations in 2013 equals the income earned in 2012 and that the estimated income from operations on the expansion is realized in 2013. Compute earnings per share, return on equity, return on assets, common equity leverage, and the capital structure leverage as of December 31, 2013, if the company finances the expansion through the following:
   (1) Alternative 1
   (2) Alternative 2
   (3) Alternative 3
   Assume that the December 31, 2013, balances equal average balances during 2013.
b. Assume that you are currently a shareholder in Watson Metal Products. Which expansion alternative would you prefer? Explain your answer.
c. What amount of net income would Watson Metal Products have to generate from the expansion project so that earnings per share would be the same before and after the expansion under each alternative?

P5–13

Preparing financial statement data from financial ratios

The following relationships were obtained for Boulder Mineral Company for 2012:

Current ratio	**3:1**
Inventory turnover (average days supply)	**12.167**
Quick ratio	**2:1**
Debt/equity	**0.4:1**
Return on equity	**0.75:1**
Return on assets	**0.65:1**
Return on sales (profit margin)	**0.2:1**
Receivables turnover	**25**
Earnings per share	**$16.00**

Additional information:

1. Boulder Mineral Company generated $450,000 in net income during 2012.
2. Credit sales comprise 80 percent of net sales.
3. Cost of goods sold is 55 percent of net sales.
4. Current liabilities are 35 percent of total liabilities.
5. The balance in the cash account is $68,000.
6. The income tax rate was 34 percent.

REQUIRED:

Using the above information (and year-end balances), compute the following items.

a. Shareholders' equity
b. Total liabilities
c. Total assets
d. Interest expense
e. Net income before taxes
f. Net sales
g. Credit sales
h. Accounts receivable
i. Cost of goods sold
j. Inventory turnover
k. Inventory
l. Current liabilities
m. Current assets
n. Marketable securities
o. Noncurrent assets
p. The number of shares of common stock outstanding

REAL DATA
P5–14
Segment analysis

Information about Pepsico's five primary segments is provided below (dollars in millions). The information was taken from the company's 2008 SEC Form 10-K.

	Revenues	Profits	Assets
Frito-Lay North America	**$12,507**	**$2,959**	**$6,284**
Quaker Foods North America	**1,902**	**582**	**1,035**
Latin America Foods	**5,895**	**897**	**3,023**
Americas Beverages	**10,937**	**2,026**	**7,673**
U.K. & Europe	**6,453**	**811**	**8,635**
Middle East, Africa, Asia	**5,575**	**667**	**3,961**

REQUIRED:

a. Compute the percent each segment contributes to the total revenues reported for 2008.
b. Rank the segments in terms of profit margin.
c. Rank the segments in terms of return on assets.
d. Discuss.

REAL DATA
P5–15
Analyzing an IFRS-based set of financial statements

Review the 2008 consolidated income statement and balance sheet published by Unilever, which is located at the end of Chapter 2 in this text.

REQUIRED:

a. Compute the profitability, solvency, leverage, and turnover ratios listed in Figure 5–3. Comment on Unilever's earning power and solvency.
b. (Appendix 5A) Use the ROE analysis described in Appendix 5A and discuss the reasons for the change in ROE from 2007 to 2008.

ISSUES FOR DISCUSSION

REAL DATA
ID5–1
Linking company characteristics to the financial statements

Financial profiles, expressing the dollar value of financial statement accounts as a percentage of total assets (for balance sheet accounts) and sales (for income statement accounts), are listed for four well-known companies.

1. Bed Bath & Beyond—housewares retailer
2. Kelly Services—provider of part-time employees

3. Bank of America—commercial bank
4. Hewlett-Packard—technology and consulting company

	1	2	3	4
Balance Sheet				
Cash	34	16	9	8
Accounts receivable	50	0	15	56
Inventories	0	39	7	0
Long-term assets	1	32	19	10
Other assets	15	13	50	26
Current liabilities	76	22	47	41
Long-term liabilities	15	7	19	14
Shareholders' equity	9	71	34	45
Income Statement				
Sales of goods	0	100	77	0
Sales of services	100	0	23	100
Cost of goods sold	0	60	59	0
Operating expenses	96	34	31	101
Net income	4	6	7	(1)

REQUIRED:
Link each profile with a company, and explain your choice.

REAL DATA
ID5–2
Linking company characteristics to the financial statements

Financial profiles, expressing the dollar value of financial statement accounts as a percentage of total assets (for balance sheet accounts) and sales (for income statement accounts), are listed for four well-known companies.

1. Walgreen's—retailer of pharmacy and consumer goods
2. EchoStar Communications—provider of satellite television dishes and services
3. General Electric—diversified manufacturer and financial services firm
4. Campbell Soup—manufacturer of food products, growing by acquisitions

	1	2	3	4
Balance Sheet				
Cash	11	29	10	1
Accounts receivable	48	11	10	9
Inventories	2	2	27	14
Long-term assets	10	41	43	33
Other assets	29	17	10	43
Current liabilities	31	13	27	27
Long-term liabilities	56	10	16	61
Shareholders' equity	13	77	57	12
Income Statement				
Sales of goods	38	81	100	100
Sales of services	62	19	0	0
Cost of goods sold	30	69	72	60
Operating expenses	60	75	25	30
Net income	10	(44)	3	10

REQUIRED:
Link each profile with a company, and explain your choice.

REAL DATA
ID5–3
Price-to-book ratios

Morningstar, a firm that evaluates and rates mutual fund performance, published an article on its Web site discussing a company's book value per share (shareholder's equity/number of shares outstanding) versus its market price per share. Morningstar claims that the price-to-book ratio (market price per share/book value per share) is a measure of the difference between the value the stock market attaches to a firm and the value GAAP attaches to the firm.

Business Week, in its 2003 Global 1000 Scoreboard, tracked the price-to-book ratio for the top companies in the world. Selected ratios are as follows.

Company	Country	Reporting System	Price-to-book
Exxon Mobil	U.S.	U.S. GAAP	3.3
BP Amoco	Britain	U.S. GAAP	2.2
Pfizer	U.S.	U.S. GAAP	9.9
Johnson & Johnson	U.S.	U.S. GAAP	6.7
Vodafone	Britain	IFRS	0.7
Novartis	Switzerland	IFRS	3.1
NTT DOCOMO	Japan	U.S. GAAP	3.6

REQUIRED:

Discuss why book value and market value are not the same. What factors would increase or decrease the price-to-book ratio? How could the nature of the business or the health of the economy affect the ratio?

REAL DATA
ID5–4
Meeting or beating analyst forecasts

Movie rental company Netflix announced first quarter 2009 earnings of $32 million, on revenue growth of 21 percent. Earnings per share ($0.54) beat the consensus analyst forecast of $0.50. In reaction to the news, Netflix's stock price rose nearly 5 percent to $47.70 per share.

REQUIRED:

a. What is a consensus forecast?
b. Why are companies concerned about meeting or beating the consensus forecast?
c. What strategies can companies use to help meet or beat the forecasts, and why might those who analyze financial statements be concerned?

REAL DATA
ID5–5
Analyzing a restructuring

Eastman Kodak Company announced plans to cut its workforce by 21 percent over a three-year period and booked an expense of approximately $1.5 billion, citing its planned transition from its traditional film business to new digital imaging technology. The expense, referred to as a "restructuring charge," covers employee severance payments and disposals of buildings and equipment planned to occur over the next couple of years. Most of the costs are in the areas of the company tied to manufacturing and distributing film and paper for traditional cameras, the focal point of the business for its entire history.

REQUIRED:

a. Is it likely that analysts anticipated that Eastman Kodak would be making such a move? Could they have anticipated the exact amount of the costs to Eastman Kodak of the transition? How do you think the stock market reacted to the news of the $1.5 billion charge? Discuss.
b. Explain why Eastman Kodak might have booked the entire charge well in advance of incurring the actual costs. Could the company be practicing earnings management? If so, how might that work?
c. If you were analyzing Eastman Kodak by computing financial ratios, how would you treat the restructuring charge?
d. Name several other companies whose fortunes are tied to a technology that is vulnerable to obsolescence.

REAL DATA
ID5–6
Reporting losses from Internet operations in the retail industry

A retailer is posting strong earnings growth in its bricks-and-mortar business, but its fledgling Internet operation is posting losses. In making their earnings estimates, should Wall Street analysts ignore those losses and focus only on the profitable business, or should they look at

the company's retailing operations as a whole, which means lowering their profit forecasts to reflect the dot-com losses? That is the crux of the battle among a growing number of companies, and recently a behind-the-scenes conflict heated up because Staples, Inc. was able to persuade many analysts to submit estimates for the office supplier's first quarter, omitting losses from its Staples.com division. Most retailers, including Wal-Mart, lump their Internet results in with everything else. Staples's competitor, Office Depot, which is making money on its Internet business, rolls the Internet side into its overall results. Toys "R" Us and Blockbuster also include losses from their Internet operations in their overall results.

REQUIRED:

Explain why Staples might want to separate the losses from its new start-up operation, and provide some reasons that company management may offer to justify the action. Do you think the losses should be reported, separated, included with the overall results, or ignored?

REAL DATA
ID5–7
Characteristics of a good investmen

Fortune ran an article on Bob Olstein, an investment analyst who was particularly bullish at the time on several well-known stocks. He said the following indicators were the keys to his success: (1) a recent dramatic drop in the stock price, (2) company reports of positive free cash flow (net cash from operations minus capital expenditures), (3) conservative accounting methods, (4) a buildup in raw materials and partially completed inventory compared to finished inventory, (5) an increase in discretionary expenditures such as research and development, (6) undervalued assets on the balance sheet, (7) little or no debt combined with a high return on assets, and (8) consistency between what the president's letter said and what had actually happened over the past few years.

REQUIRED:

Explain how each of the eight items could provide a positive sign about a company.

REAL DATA
ID5–8
Financial accounting information in an efficient market

In an article published in the *Journal of Accountancy,* James Deitrick and Walter Harrison noted that the major markets for common stocks (e.g., the New York Stock Exchange, the American Stock Exchange) have been found to be efficient. That is, "common stock prices behave as if they fully incorporate all existing information quickly and without bias. This implies that information, old and new, has been impounded into security prices as a result of the analysis and collective wisdom of investors and their advisors." This finding has encouraged many accountants to contend that the information contained in financial reports cannot be used to identify undervalued common stocks in an efficient market.

REQUIRED:

a. Provide the rationale for why the information contained in financial reports cannot be used to identify undervalued securities.
b. Explain how financial accounting information can be useful even though it may not be helpful in identifying undervalued securities that are traded in efficient markets.

REAL DATA
ID5–9
Company value, intangibles, and the new economy

Baruch Lev, a well-respected accounting professor at New York University's Stern School of Business, has commented about the lack of relevance in today's financial statements. He notes that the 500 largest companies in the United States have market-to-book ratios (the ratio between the market value of the company and its balance sheet value [total assets − total liabilities]) that, on average, are greater than six. What this means is that the balance sheet reflects only 10 to 15 percent of the value of these companies. He claims that intangibles are fast becoming substitutes for physical assets. *PR Newswire* reported: "The traditional standards of financial accounting—measuring a company's book value based solely on physical assets that appear on the balance sheet—is becoming obsolete."

REQUIRED:

What is Professor Lev referring to when he mentions intangibles? Explain the reasoning underlying his claim. Do you agree with him? Why or why not?

REAL DATA
ID5–10
Weak accounting

Billionaire investor Warren Buffett was once quoted in the *Financial Post* saying: "The reaction of weak management to weak operations is often weak accounting."

REQUIRED:
What does he mean? Provide some examples. What are the implications for financial statement users?

REAL DATA
ID5–11
Financial ratios, earning power, solvency, and stock prices

An accounting professor at the University of California at Berkeley was once quoted in the *Wall Street Journal* as saying,

The most important items on the financial statements are trends in inventory, accounts receivable, and order backlogs. These are the strongest indicators and are more closely related to stock returns than reported earnings. In particular, investors should look at how companies' inventories of finished goods track their sales. If inventories are rising faster than sales, it's a bad signal. . . . For similar reasons, it pays to watch accounts receivable. . . . If these are rising faster than sales, not only can this signal trouble with sales but may show vulnerability to customer defaults.

REQUIRED:
a. Which of the financial ratios best captures the indicators suggested by the Berkeley professor?
b. Explain how these ratios provide information about solvency and earning power and why they might be more closely related to stock prices than earnings.

REAL DATA
ID5–12
Stock price reactions to earnings announcements

The business press follows the movement of stock prices very closely, especially when companies post their earnings announcements. Interestingly, there is no set pattern for how stock prices react to earnings announcements. Sometimes companies report earnings increases and stock prices decrease, while sometimes companies report earnings decreases and stock prices increase.

REQUIRED:
Explain how this can occur.

REAL DATA
ID5–13
Initial public offerings (IPOs) yet to show profits

The June 4, 2007, edition of the *Wall Street Journal* reported that in 2007 many companies selling stock to the public for the first time—initial public offerings (IPOs)—are not yet profitable. According to a report issued by the research firm Sageworks, 46 percent of the companies that listed IPOs in early 2007 had shown nothing but losses, the highest percentage since the dot-com bubble in 1999 and 2000. The CEO of Sageworks was quoted as saying, "Traditionally, there have been some rules of thumb about when to go public, and one of them was that you should have profits." The research report was issued at the same time that the Dow Jones Industrial Average and the S&P 500 stock index hit their record highs.

REQUIRED:
a. Why did the research report compare the IPOs in 2007 to the era of Internet companies going public?
b. What are the risks to investors if a company has never shown profits?
c. What is the connection between the number of IPOs from unprofitable companies and the record levels of the stock market?
d. The article stated, "Investors now want more than pie-in-the-sky promises of future profits. They are looking at revenue and cash flow and want specific timetables for profitability before buying shares." Discuss this quote and its connections to the financial statements.

REAL DATA
ID5–14
Appendix 5A: Analyzing the financial statements of Eli Lilly

The following pages contain the consolidated balance sheets and statements of income and cash flows taken from the 2008 annual report of Eli Lilly, a major pharmaceutical.

REQUIRED:
Analyze the statements by using the ROE model. Estimate whether Lilly created value for its shareholders and identify the company's primary value drivers.

CONSOLIDATED STATEMENTS OF OPERATIONS

Eli Lilly and Company and Subsidiaries
(Dollars in millions, except per-share data)

Year Ended December 31	2008	2007	2006
Net sales	$20,378.0	$18,633.5	$15,691.0
Cost of sales	4,382.8	4,248.8	3,546.5
Research and development	3,840.9	3,486.7	3,129.3
Marketing, selling, and administrative	6,626.4	6,095.1	4,889.8
Acquired in-process research and development (Note 3)	4,835.4	745.6	—
Asset impairments, restructuring, and other special charges (Note 5)	1,974.0	302.5	945.2
Other—net, expense (income)	26.1	(122.0)	(237.8)
	21,685.6	14,756.7	12,273.0
Income (loss) before income taxes	(1,307.6)	3,876.8	3,418.0
Income taxes (Note 12)	764.3	923.8	755.3
Net income (loss)	$ (2,071.9)	$ 2,953.0	$ 2,662.7
Earnings (loss) per share—basic and diluted (Note 11)	$ (1.89)	$ 2.71	$ 2.45

See notes to consolidated financial statements.

Eli Lilly and Company and Subsidiaries
Consolidated Balance Sheets

December 31 (Dollars in millions)	2008	2007	2006
ASSETS			
Current Assets			
Cash and cash equivalents	$ 5,496.7	$ 3,220.5	$ 3,109.3
Short-term investments	429.4	1,610.7	781.7
Accounts receivable, net of allowances of $97.4 (2008) and $103.1 (2007)	2,778.8	2,673.9	2,298.6
Other receivables (Note 9)	498.5	1,030.9	395.8
Inventories	2,493.2	2,523.7	2,270.3
Deferred income taxes (Note 12)	382.1	642.8	519.5
Prepaid expenses	374.6	613.6	319.5
Total current assets	12,453.3	12,316.1	9,694.4
Other Assets			
Prepaid pension (Note 13)	—	1,670.5	1,091.5
Investments (Note 6)	1,544.6	577.1	1,001.9
Goodwill and other intangibles—net (Note 3)	4,054.1	2,455.4	130.0
Sundry (Note 9)	2,534.3	1,280.6	1,885.3
	8,133.0	5,983.6	4,108.7
Property and Equipment, net	8,626.3	8,575.1	8,152.3
	$29,212.6	$26,874.8	$21,955.4
LIABILITIES AND SHAREHOLDERS' EQUITY			
Current Liabilities			
Short-term borrowings and current maturities of long-term debt (Note 7)	$ 5,846.3	$ 413.7	$ 219.4
Accounts payable	885.8	924.4	789.4
Employee compensation	771.0	823.8	641.6

Sales rebates and discounts	873.4	706.8	508.3
Dividends payable	536.8	513.6	463.3
Income taxes payable (Note 12)	229.2	238.4	640.6
Other current liabilities (Note 9)	3,967.2	1,816.1	1,822.9
Total current liabilities	13,109.7	5,436.8	5,085.5
Other Liabilities			
Long-term debt (Note 7)	4,615.7	4,593.5	3,494.4
Accrued retirement benefit (Note 13)	2,387.6	1,145.1	1,586.9
Long-term income taxes payable (Note 12)	906.2	1,196.7	—
Deferred income taxes (Note 12)	74.7	287.5	62.2
Other noncurrent liabilities (Note 9)	1,383.4	711.3	745.7
	9,367.6	7,934.1	5,89.2
Commitments and contingencies (Note 14)			
Shareholders' Equity (Notes 8 and 10)			
Common stock—no par value			
Authorized shares: 3,200,000,000			
Issued shares: 1,136,948,610 (2008) and 1,135,212,894 (2007)	711.1	709.5	707.9
Additional paid-in capital	3,976.6	3,805.2	3,571.9
Retained earnings	7,654.9	11,806.7	10,926.7
Employee benefit trust	(2,635.0)	(2,635.0)	(2,635.0)
Deferred costs—ESOP	(86.3)	(95.2)	(100.7)
Accumulated other comprehensive income (loss) (Note 15)	(2,786.8)	13.2	(1,388.7)
	6,834.5	13,604.4	11,082.1
Less cost of common stock in treasury			
2008—888,998 shares	99.2	100.5	101.4
2007—899,445 shares	6,735.3	13,503.9	10,980.7
	$29,212.6	$26,874.8	$21,955.4

See notes to consolidated financial statements.

Eli Lilly and Company and Subsidiaries
Consolidated Statements of Cash Flows

Year Ended December 31 (Dollars in millions)	2008	2007	2006
Cash Flows from Operating Activities			
Net income (loss)	$(2,071.9)	$ 2,953.0	$2,662.7
Adjustments to Reconcile Net Income to Cash Flows from Operating Activities			
Depreciation and amortization	1,122.6	1,047.9	801.8
Change in deferred taxes	442.6	60.7	346.8
Stock-based compensation expense	255.3	282.0	359.3
Acquired in-process research and development, net of tax	4,792.7	692.6	—
Other, net	406.5	172.1	600.6
	4,947.8	5,208.3	4,771.2
Changes in operating assets and liabilities, net of acquisitions			
Receivables—(increase) decrease	799.1	(842.7)	243.9
Inventories—(increase) decrease	84.8	154.3	(60.2)
Other assets—(increase) decrease	1,648.6	(355.8)	(43.0)

Accounts payable and other liabilities—increase (decrease)	(184.7)	990.4	(936.0)
	2,347.8	(53.8)	(795.3)
Net Cash Provided by Operating Activities	7,295.6	5,154.5	3,975.9
Cash Flows from Investing Activities			
Purchases of property and equipment	(947.2)	(1,082.4)	(1,077.8)
Disposals of property and equipment	25.7	32.3	65.2
Net change in short-term investments	957.6	(376.9)	1,247.5
Proceeds from sales and maturities of noncurrent investments	1,597.3	800.1	1,507.7
Purchases of noncurrent investments	(2,412.4)	(750.7)	(1,313.2)
Purchases of in-process research and development	(122.0)	(111.0)	—
Cash paid for acquisitions, net of cash acquired	(6,083.0)	(2,673.2)	—
Other, net	(284.8)	(166.3)	179.0
Net Cash Provided by (Used for) Investing Activities	(7,268.8)	(4,328.1)	(608.4)
Cash Flows from Financing Activities			
Dividends paid	(2,056.7)	(1,853.6)	(1,736.3)
Net change in short-term borrowings	5,060.5	(468.5)	(8.4)
Proceeds from issuance of long-term debt	0.1	2,512.6	—
Repayments of long-term debt	(649.8)	(1,059.5)	(2,781.5)
Purchases of common stock	—	—	(122.1)
Issuances of common stock under stock plans	—	24.7	59.6
Other, net	(8.1)	(0.6)	9.9
Net Cash Provided by (Used for) Financing Activities	2,346.0	(844.9)	(4,578.8)
Effect of exchange rate changes on cash and cash equivalents	(96.6)	129.7	97.1
Net increase in cash and cash equivalents	2,276.2	111.2	102.6
Cash and cash equivalents at beginning of year	3,220.5	3,109.3	3,006.7
Cash and Cash Equivalents at End of Year	$ 5,496.7	$ 3,220.5	$3,109.3

See notes to consolidated financial statements.

Eli Lilly and Company and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)

Year Ended December 31 (Dollars in millions)	2008	2007	2006
Net income (loss)	$(2,071.9)	$2,953.0	$2,662.7
Other comprehensive income (loss)			
Foreign currency translation gains (losses)	(766.1)	756.6	542.4
Net unrealized losses on securities	(190.6)	(11.4)	(3.2)
Minimum pension liability adjustment (Note 13)	—	—	(18.8)
Defined benefit pension and retiree health benefit plans (Note 13)	(2,941.2)	943.8	—
Effective portion of cash flow hedges	23.2	(0.1)	143.3
Other comprehensive income (loss) before income taxes	(3,874.7)	1,688.9	663.7
Provision for income taxes related to other comprehensive income (loss) items	1,074.7	(287.0)	(43.1)
Other comprehensive income (loss) (Note 15)	(2,800.0)	1,401.9	620.6
Comprehensive income (loss)	$(4,871.9)	$4,354.9	$3,283.3

See notes to consolidated financial statements.

REAL DATA
ID5–15
Appendix 5A: Projecting financial statements

Review the Eli Lilly financial statements contained in ID5-14 and, based on the following assumptions, prepare a simplified 2009 income statement and balance sheet.

- Sales growth in 2009 is at the same rate as in 2008.
- Expense to sales ratio is 85 percent.
- Total assets to sales ratio remains at the same level as at the end of 2008.
- Total liabilities to total assets ratio remains at the same level as at the end of 2008.

REAL DATA
ID5–16
Appendix 5A: Cash flow profiles and company life cycles

Cash flow profiles over a three-year period are provided here for three well-known companies: Echostar Communications, Wal-Mart, and US Airways. Link each profile to one of the firms, explain what it means in terms of the company's cash management strategy, and describe how this analysis might reveal the company's age, maturity, and success.

	1	2	3
PROFILE 1			
Net cash flow from operations	+	+	+
Net cash flow from investing activities	−	−	−
Net cash flow from financing activities	+	+	+
PROFILE 2			
Net cash flow from operations	−	−	−
Net cash flow from investing activities	−	+	−
Net cash flow from financing activities	+	+	+
PROFILE 3			
Net cash flow from operations	+	+	+
Net cash flow from investing activities	−	−	−
Net cash flow from financing activities	−	−	−

REAL DATA
ID5–17
The SEC Form 10-K of NIKE

The NIKE 10-K Form is reproduced in Appendix C.

REQUIRED:

a. Review the NIKE SEC Form 10-K and analyze the financial statements by assessing NIKE's earning power and solvency, and provide support for your assessments. Start by using the ratio framework illustrated in Figure 5–3.
b. Find the operating segment information disclosed by NIKE. Which of NIKE's segments generates the most revenues, and what percent is it of the total? Which of the segments has the highest profit margin, and which segment has the fastest long-lived asset turnover?
c. (Appendix 5A) Use the ROE model to analyze the financial statements. Comment on whether NIKE created shareholder value and identify the primary value drivers.
d. (Appendix 5A) Based on the financial statements, make reasonable assumptions about NIKE's sales growth, expense/sales ratio, sales/total assets ratio, and liabilities to total asset ratio for 2010, and prepare a simplified income statement and balance sheet for NIKE for 2010.

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