Chapter 1

Overview of Financial Reporting, Financial Statement Analysis, and Valuation

Learning Objectives

1. **Understand the analytical framework that is the foundation for this book. This framework enables the analyst to link the economic characteristics and strategies of a firm, its financial statements and notes, assessments of its current and forecasted profitability and risk, and its market value.**
2. **Study and apply three tools for studying the economic characteristics of an industry in which a firm competes.**
3. **Become familiar with PepsiCo, the firm that we analyze throughout the book, obtaining an overview of its economics, strategy, and financial statements.**
4. **Review the purpose, underlying concepts, and format of the balance sheet, the income statement, and the statement of cash flows.**
5. **Examine the provisions of the Sarbanes-Oxley Act of 2002 that relate to financial statement information.**
6. **Obtain an overview of the tools available to the analyst to analyze a firm's profitability and risk.**
7. **Obtain an overview of how the analyst might use financial statement information in the valuation of a firm.**
8. **Understand the role of financial statement analysis in an efficient capital market.**
9. **Review sources of financial information available for publicly held firms.**
10. **Obtain helpful hints for conducting a financial statement analysis project (Appendix 1.1).**

The principal activity of security analysts is to value firms. Security analysts use financial statements and other information to evaluate a firm's success in the past and to predict its likely future performance. They then use the predicted information to measure the value of the firm's shares. Comparisons of their estimates of the firm's share value with the market's price for the shares provide the basis for making buy, hold, or sell investment recommendations.

This book has three principal purposes:

1. To demonstrate the links between a firm's economics and strategy and analysis of its financial statements, with the objective of gaining insights about the firm's profitability and its risk. Chapters 1 to 5 discuss the principal financial statements and tools for analyzing profitability and risk.
2. To enhance understanding of the accounting principles and methods that firms use to prepare their financial statements and the adjustments that the analyst might make to reported amounts to increase their relevance and reliability. Chapters 6 to 9 explore accounting principles in depth.
3. To illustrate the use of financial statement data to build forecasts of future financial statements and use the forecasted amounts of future earnings, cash flows, and dividends in the valuation of firms. Chapters 10 to 14 focus on forecasting and valuation.

Financial analysis is an exciting and rewarding activity, particularly when the objective is to assess whether the market is pricing fairly a firm's shares. Studying the intrinsic characteristics of a firm—for example, its business model; product and service market share; and operating, investing and financing decisions—and employing this information to make informed judgments can be a very satisfying endeavor. Financial statements play a central role in the study and analysis of a firm.

The tools of effective financial statement analysis adapt to many settings in addition to measuring firm value. Other settings include the following:

- extending credit, either for a short-term period (for example, a bank loan used to finance accounts receivable or inventories) or for a long-term period (for example, a bank loan or public bond issue used to finance the acquisition of property, plant, or equipment);
- assessing the operating performance and financial health of a supplier, customer, competitor, or potential employer;
- managing a firm;
- consulting with a firm and offering helpful strategic advice;
- evaluating firms for potential acquisitions or mergers;
- valuing a firm in the initial public offering of its stock;
- forming a judgment about damages sustained in a lawsuit; and
- assessing the extent of auditing needed to form an opinion on a client's financial statements.

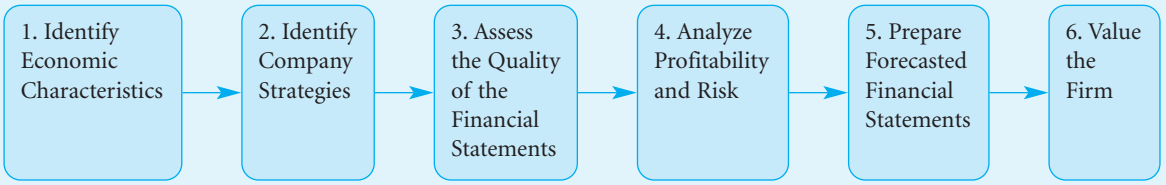
OVERVIEW OF FINANCIAL STATEMENT ANALYSIS

The effective analysis of financial statements involves six interrelated, sequential steps, depicted in Exhibit 1.1:

1. **Identify the economic characteristics of the industry in which a particular firm participates.** For example, does the industry include a large number of firms selling similar products, such as grocery stores, or is the industry characterized by a small number of competitors selling unique products, such as pharmaceutical companies? Does technological change play an important role in maintaining a competitive advantage, as in computer software? Are industry sales growing rapidly or slowly?
2. **Identify the strategies that the firm pursues to gain and sustain a competitive advantage.** Are its products designed to meet the needs of specific market seg-

EXHIBIT 1.1

Interrelated Sequential Steps in Financial Statement Analysis



ments, such as ethnic or health foods, or are they intended for a broader consumer market, such as typical grocery stores and family restaurants? Has the firm integrated backward into the growing or manufacture of raw materials for its products, such as a steel company that owns iron ore mines? Has the firm integrated forward into retailing to final consumers, such as an athletic footwear manufacturer that operates retail stores to sell its products? Is the firm diversified across several geographic markets or industries?

3. **Assess the quality of the firm's financial statements and, if necessary, adjust them for such desirable characteristics as sustainability or comparability.** For example, do the firm's financial statements provide a clear and informative representation of the firm's economic performance, financial position, and risk? Has the firm prepared its financial statements in accordance with generally accepted accounting principles of the United States, Japan, Mexico, or some other country, or are they prepared in accordance with principles established by the International Accounting Standards Board (IASB)? Has the firm recognized revenues at the appropriate time, after giving due consideration to uncertainties regarding the collectibility of cash from customers and the accurate measurement of expenses? Do earnings include nonrecurring gains and losses, such as a write-down of an equity investment or goodwill, which the analyst should evaluate differently from recurring components of earnings? Has the firm structured transactions or commercial arrangements and has it selected accounting principles that make it appear more profitable or less risky than economic conditions otherwise suggest?
4. **Analyze the current profitability and risk of the firm using information in the financial statements.** Most financial analysts assess the profitability of a firm relative to the risks involved. Ratios of particular items in the financial statements are the tools used to analyze profitability and risk.
5. **Prepare forecasted financial statements.** Assessments of the recent profitability from step 4 provide the basis for projecting the likely future profitability and, in turn, the likely future returns from investing in the company. Forecasts of a firm's ability to manage risks, particularly those elements of risk with measurable financial consequences, permit the analyst to estimate the likelihood that the firm will experience financial difficulties in the future. Forecasted financial statements that rely on a set of analyst assumptions about the future provide the basis for projecting future profitability and risk.
6. **Value the firm.** Financial statement analysis is most frequently applied to value companies. Financial analysts make recommendations to buy, sell, or hold the equity securities of various firms whose price they think is too low, too high, or

about right. Investment banking firms that underwrite the initial public offering of a firm's common stock must set the initial offering price. Translating information from the financial statements into reliable estimates of firm value, and therefore into intelligent investment decisions, is the principal activity of financial analysts.

These six interrelated steps represent the subject matter of this book. We use these six steps as the analytical framework for analysts to follow in their efforts to analyze and value a company. This chapter briefly explores each step. Subsequent chapters develop the important concepts and tools in considerably more depth.

Throughout this book, we use financial statements, notes, and other information provided by PepsiCo, Inc. and Subsidiaries (PepsiCo) to illustrate the various topics discussed. Appendix A at the end of the book includes recent financial statements and notes for PepsiCo, as well as statements by management and the opinion of the independent accountant regarding these financial statements. Appendix B includes excerpts from a financial review provided by management that discusses the business strategy of PepsiCo, and also offers explanations for changes in its profitability and risk over time. Appendix C presents the output of a financial statement analysis software package called FSAP showing the profitability and risk ratios for PepsiCo for recent years. Appendix C also presents forecasted financial statements and a variety of valuation models applied to the forecasted data for PepsiCo. FSAP is available at www.thomsonedu.com/accounting/stickney. Students can use FSAP for many of the problems and cases in this book to aid their analysis. Appendix D presents a user manual for FSAP.

STEP 1: IDENTIFY THE INDUSTRY ECONOMIC CHARACTERISTICS

The economic characteristics of an industry play a key role in determining the types of financial statement relationships the analyst should expect to observe when analyzing a set of financial statements. Consider, for example, the financial statement data for firms in four different industries in Exhibit 1.2. This exhibit expresses all items on the balance sheet and income statement as a percentage of revenue. Consider how the economic characteristics of these industries affect their financial statement relationships.

Grocery Store Chain

The products of a particular grocery store chain are difficult to differentiate from similar products of other grocery store chains, a trait that results in characterizing such products as *commodities.* In addition, low barriers to entry exist in the grocery store industry; an entrant primarily needs retail space and access to food products distributors. Thus, extensive competition and nondifferentiated products result in a relatively low net income to sales, or profit margin, percentage (3.5 percent in this case). Grocery stores, however, need relatively few assets in order to generate sales (34.2 cents in assets for each dollar of sales in this case). The assets are described as turning over 2.9 times (= 100.0%/34.2%) per year. Each time the assets of this grocery store chain turn over, or generate one dollar of revenue, it generates a profit of 3.5 cents. Thus, during a one-year period, the grocery store earns 10.15 cents (= 3.5% × 2.9) for each dollar invested in assets.

Pharmaceutical Company

The barriers to entry in the pharmaceutical industry are much higher than for grocery stores. Pharmaceutical firms must invest considerable amounts in research and develop-

EXHIBIT 1.2

Common-Size Financial Statement Data for Four Firms

	Grocery Store Chain	Pharmaceutical Company	Electric Utility	Commercial Bank
Balance Sheet at End of Year				
Cash and Marketable Securities	.7%	11.0%	1.5%	261.9%
Accounts and Notes Receivable	.7	18.0	7.8	733.5
Inventories	8.7	17.0	4.5	—
Property, Plant, and Equipment, net	22.2	28.7	159.0	18.1
Other Assets	1.9	72.8	29.2	122.6
Total Assets	34.2%	147.5%	202.0%	1,136.1%
Current Liabilities	7.7%	30.8%	14.9%	936.9%
Long-Term Debt	7.6	12.7	130.8	71.5
Other Noncurrent Liabilities	2.6	24.6	1.8	27.2
Shareholders' Equity	16.3	79.4	54.5	100.5
Total Equities	34.2%	147.5%	202.0%	1,136.1%
Income Statement for Year				
Revenue	100.0%	100.0%	100.0%	100.0%
Cost of Goods Sold	(74.1)	(31.6)	(79.7)	—
Operating Expenses	(19.7)	(37.1)	—	(41.8)
Research and Development	—	(10.1)	—	—
Interest	(.5)	(3.1)	(4.6)	(36.6)
Income Taxes	(2.2)	(6.0)	(5.2)	(8.6)
Net Income	3.5%	12.1%	10.5%	13.0%

ment to create new drugs. If new drugs survive a lengthy government approval process, firms receive patents for these new drugs. These patents give firms exclusive rights to manufacture and sell these drugs for an extended period. These high entry barriers (research and development expenditures, the government approval process, patent protection) permit pharmaceutical firms to realize much higher profit margins on approved, patent-protected products than grocery stores. Exhibit 1.2 indicates that the pharmaceutical firm generated a profit margin of 12.1 percent, more than three times that reported by the grocery store chain. Pharmaceutical firms, however, face product liability risks as well as the risk that competitors will develop superior drugs that make a particular firm's drug offerings obsolete. Because of these business risks, pharmaceutical firms tend to take on relatively small amounts of debt financing.

Electric Utility

The principal assets of an electric utility are its capital-intensive generating plants. Thus, property, plant, and equipment dominate the balance sheet. Because of the large investments required in such assets, electric utility firms in the past have generally demanded a monopoly position in a particular locale. Government regulators permitted this monopoly position but set the rates that utilities charged customers for electric services. Thus, electric utilities have traditionally realized relatively high profit margins (10.5 percent in this case) to offset their relatively low total asset turnovers (.495 = 100.0%/202.0% in this case). The monopoly position and regulatory protection reduced the risk of financial failure and permitted electric utilities to invest large amounts of capital in long-lived assets and take on relatively high proportions of debt in their capital structures. The economic characteristics of electric utilities have changed dramatically in recent years. The gradual elimination of monopoly positions and the setting of rates as market conditions dictate are reducing profit margins considerably.

Commercial Bank

The principal assets of commercial banks are investments in financial securities and loans to businesses and consumers. The principal financing for commercial banks comes from customers' deposits and short-term borrowing. Because customers can generally withdraw deposits at any time, commercial banks invest in securities that they can quickly sell for cash, if necessary. The lending of money is a commodity business: money borrowed from one bank is similar to money borrowed from another bank. Thus, one would expect a commercial bank to realize a small profit margin on the revenue it earns from lending (interest revenue) over the price it pays for its borrowed funds (interest expense). The profit margins on lending are indeed relatively small. The 13.0 percent margin for the commercial bank shown in Exhibit 1.2 reflects the much higher profit margins it generates from offering fee-based financial services, such as arranging mergers and acquisitions, structuring financing packages for businesses, and guaranteeing financial commitments of business customers. Note that the assets of this commercial bank turn over just .09 (=100.0%/1,136.1%) times per year, reflecting the net effect of interest revenues from investments and loans of 6 to 8 percent per year and fee-based revenues, which require relatively few assets.

TOOLS FOR STUDYING INDUSTRY ECONOMICS

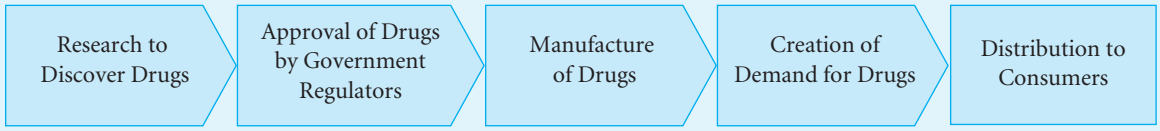
Three tools for studying the economic characteristics of an industry are (1) value chain analysis, (2) Porter's five forces classification framework, and (3) an economic attributes framework. The microeconomics literature suggests other analytical frameworks as well.

Value Chain Analysis

The value chain for an industry sets forth the sequence or chain of activities involved in the creation, manufacture, and distribution of its products and services. Exhibit 1.3 portrays a value chain for the pharmaceutical industry. Pharmaceutical companies invest in research and development to discover and develop new drugs. When promising drugs emerge, a lengthy drug approval process begins. Estimates suggest that it takes 8 to 12 years and almost $1 billion to discover and obtain approval of new drugs. To expedite the approval process, reduce costs, and permit their scientists to devote energies to the more creative drug discovery phase, pharmaceutical companies often contract with clinical research firms to conduct the testing and shepherding of new drugs through the approval process.

EXHIBIT 1.3

Value Chain for the Pharmaceutical Industry



The manufacture of drugs involves combining various chemicals and other elements. For quality control and product purity reasons, pharmaceutical companies use highly automated manufacturing processes.

Pharmaceutical companies employ sales forces to market drugs to doctors, hospitals, and health maintenance organizations. In an effort to create demand, these companies have increasingly advertised new products through multiple advertising media, suggesting that consumers ask their doctors about the drug. Drug distribution typically channels through pharmacies, although bulk mail-order and Internet purchases are increasingly common (and encouraged by health insurers).

To the extent that prices are available for products or services at any stage in the value chain, the analyst can study where value is added within an industry. For example, the analyst can look at the prices paid to acquire firms with promising or newly discovered drugs to ascertain the value of the drug discovery phase. The prices charged by clinical research firms to test and obtain approval of new drugs signal the value added by this activity. The higher the value added from any activity, the higher should be the profitability from engaging in that phase.

The analyst can also use the value chain to identify the strategic positioning of a particular firm within the industry. Pharmaceutical firms have traditionally maintained a presence in the discovery through demand creation phases, leaving distribution to pharmacies and, increasingly, contracting out the drug testing and approval phase.

Refer to Note 1, "Basis of Presentation and Our Divisions" to the financial statements of PepsiCo (Appendix A). PepsiCo operates in four business segments: Frito-Lay North America (branded snacks, chips and other food products), PepsiCo Beverages North America (soft drinks and other beverages), Quaker Foods North America (cereal and related products), and PepsiCo International (products of all three North American divisions but sold outside the United States and Canada). Exhibit 1.4 shows the amounts, taken from Note 1 to PepsiCo's financial statements in Appendix A, and proportions of revenues and operating profit that PepsiCo derived from each of these four segments for Year 4.

Exhibit 1.5 illustrates a value chain for one of PepsiCo's principal businesses, the soft drink/beverage industry.

Although the classic PepsiCo soft drinks (Pepsi, Mountain Dew, Slice, and others) have not changed for many years, the company continually engages in new product development. Once a product appears to have commercial feasibility, PepsiCo combines raw materials into a concentrate or syrup base. The ingredients and their mixes are highly confidential. PepsiCo then ships the concentrate to its franchise bottlers (or, in the case of syrup, to its national fountain accounts), who combine it with water and sweeteners to produce the finished soft drink beverage.

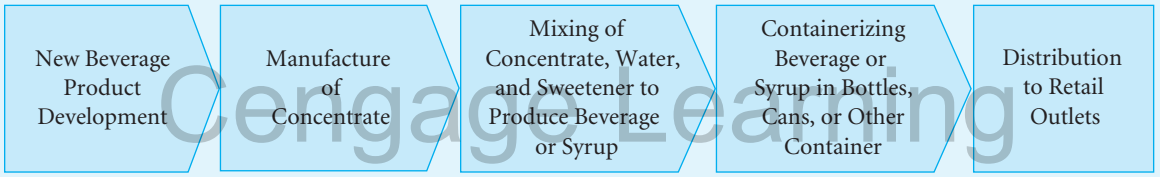
EXHIBIT 1.4

Segment Revenues and Operating Profit for PepsiCo for Year 4
(dollar amounts in millions)

	Revenues		Operating Profit	
Frito-Lay North America	$ 9,560	32.7%	$2,389	39.2%
PepsiCo Beverages North America	8,313	28.4	1,911	31.3
Quaker Foods North America	1,526	5.2	475	7.8
PepsiCo International	9,862	33.7	1,323	21.7
Total	$29,261	100.0%	$6,098	100.0%

EXHIBIT 1.5

Value Chain for the Soft Drink/Beverage Industry



PepsiCo relies on noncontrolled affiliates to bottle and distribute a large percentage of its beverages. That is, PepsiCo contracts out the bottling operation (we discuss the rationale for this arrangement in the strategy section later in this chapter). The bottlers transport the bottled beverages and syrups to independent distributors and retail establishments.

Because the analyst can obtain separate financial statements for PepsiCo and for its bottlers, one can observe where value is added along the value chain. We examine the profitability and risk of PepsiCo and its bottlers in greater depth in Chapters 4, 5, and 9.

Porter's Five Forces Classification Framework

Porter suggests that five forces influence the profitability of firms within an industry.[1]

1. **Buyer Power.** Are consumers sensitive to product prices? If products are similar to those offered by competitors, consumers may switch to the lowest-priced offering. If consumers view a particular firm's products as unique, however, they will likely be less sensitive to price differences. Another dimension of price sensitivity is the relative cost of a product. Consumers are less sensitive to the prices of products that represent a small portion of income, such as beverages, than to higher-priced products, such as automobiles.

[1]Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press), 1998.

Buyer power relates to the relative number of buyers and sellers in a particular industry. If there are many sellers of a product and a small number of buyers, such as military equipment and weapons systems bought by governments, the buyer can exert significant downward pressure on prices and therefore on the profitability of suppliers. If there are few sellers and many buyers, as with beverages, then the sellers have more bargaining power. Brand loyalty, control of distribution channels, low price, and the small number of suppliers result in relatively low buyer power in the beverage industry. However, certain buyers, such as Wal-Mart Stores and fast-food chains, make such large beverage purchases on a national level that they can exert significant buyer power.

2. **Supplier Power.** A similar set of factors applies on the input side as well. Beverage companies purchase the raw materials that make up their concentrate or syrup. Although PepsiCo does not disclose every ingredient, it is unlikely that PepsiCo is dependent on one or even a few suppliers for any of its raw materials. It is also unlikely that any of these ingredients are sufficiently unique that the suppliers could exert much power over PepsiCo. Given PepsiCo's size, the power more likely resides with PepsiCo than with its suppliers. By contrast, certain suppliers of microchips, operating systems, and software are very powerful suppliers to PC manufacturers.
3. **Rivalry among Existing Firms.** PepsiCo and Coca-Cola dominate the soft drink/beverage industry in the United States. Because some consumers view their products as similar, intense competition based on price could develop. Also, the soft drink market in the United States is mature (that is, not growing rapidly), so price cutting could become a strategy to gain market share.

   While intense rivalries have a tendency to reduce profitability, in this case PepsiCo and Coca-Cola, the two largest players, can tacitly avoid competing based on price and compete instead on brand image, access to key distribution channels (for example, fast-food chains and grocery store shelf space), and other attributes. Growth opportunities do exist in other countries, which these companies pursue aggressively. Thus, we might characterize industry rivalry as low to moderate.
4. **Threat of New Entrants.** How easily can new firms enter a market? Are there entry barriers, such as large capital investment, technological expertise, patents, or regulation that inhibit new entrants? If so, firms in the industry will likely generate higher earnings than if new entrants can easily enter the market and compete away the excess profits.

   Entry barriers in the soft drink industry are high, so the threat of new entrants is low. Brand recognition by PepsiCo and Coca-Cola serves as one entry barrier. Another barrier is domination of the distribution channels by these two firms. Most restaurant chains sign exclusive contracts to serve the beverages of one or the other of these two firms. Also, PepsiCo and Coca-Cola often dominate shelf space in grocery stores.
5. **Threat of Substitutes.** How easily can customers switch to substitute products? How likely are they to switch? When there are close substitutes in a market, profitability is dampened, as often occurs, for example, between restaurants and grocery stores for certain types of prepared foods, and between airlines, driving an automobile, and other means of leisure travel for short distances. Unique products with few substitutes, such as certain prescription medications, enhance profitability. Fruit juices, bottled waters, sports drinks, teas, and coffees serve a similar thirst-quenching function to that of soft drinks, which is why PepsiCo purchased Tropicana and Gatorade. Consumer buying habits, brand loyalty, and channel availability, however, minimize the threat of substitutes in the soft drink industry.

Thus, the soft drink/beverage industry rates low on buyer power, supplier power, threat of new entrants, and threat of substitutes, and moderate on rivalry within the industry. Unless either PepsiCo or Coca-Cola decides to compete on the basis of low price, the analyst might expect these firms to report relatively high profitability.

Economic Attributes Framework

We have found the following framework useful in studying the economic attributes of a business, in part because it ties in with items reported in the financial statements.

1. **Demand**
   - Are customers highly price sensitive, as in the case of automobiles, or are they relatively insensitive, as in the case of soft drinks?
   - Is demand growing rapidly, as in the case of long-term health care, or is the industry relatively mature, as in the case of grocery stores?
   - Does demand move with the economic cycle, as in the case of construction of new homes and offices, or is it insensitive to business cycles, as in the case of food products or medical care?
   - Does demand vary with the seasons of a year, as in the case of summer clothing or ski equipment, or is it relatively stable throughout the year, as in the case of most grocery store products?
2. **Supply**
   - Are many suppliers offering similar products, or are few suppliers offering unique products?
   - Are there high barriers to entry or can new entrants gain easy access?
   - Are there high barriers to exit?
3. **Manufacturing**
   - Is the manufacturing process capital intensive, as in the case of electric power generation; labor intensive, as in the case of advertising and auditing services; or a combination of the two, as in the case of automobile manufacturing and airline transportation?
   - Is the manufacturing process complex with low tolerance for error, as in the case of heart pacemakers or microchips, or relatively simple with ranges of acceptable-quality products, as in the case of apparel and nonmechanized toys?
4. **Marketing**
   - Is the product promoted to other businesses, in which case a sales staff plays a key role, or is it marketed to consumers, so that advertising, location, and coupons serve as the principal promotion mechanisms?
   - Does steady demand pull products through distribution channels, or must firms continually create demand?
5. **Investing and Financing**
   - Are the assets of firms in the industry relatively short term, as in the case of commercial banks, which require short-term sources of funds to finance them? Or are assets relatively long term, as in the case of electric utilities, which require primarily long-term financing?
   - Is there relatively little risk in the assets of firms in the industry, such as from technological obsolescence, so firms can carry high proportions of debt financing? Alternatively, are there high risks resulting from short product life cycles or product liability concerns that dictate low debt and high shareholders' equity financing?

EXHIBIT 1.6

Economic Characteristics of the Soft Drink/Beverage Industry

Demand

- Relatively insensitive to price.
- Low growth in the United States but more rapid growth opportunities in other countries.
- Demand is not cyclical.
- Demand is higher during warmer weather.

Supply

- Two principal suppliers (PepsiCo and Coca-Cola) selling branded products.
- Branded products and domination of distribution channels by two principal suppliers create high barriers to entry.

Manufacturing

- Manufacturing process for concentrate and syrup is not capital intensive.
- Bottling and distribution of final product is capital intensive.
- Manufacturing process is simple (essentially a mixing operation) with some tolerance for quality variation.

Marketing

- Brand recognition and established demand pull products through distribution channels, but advertising can stimulate demand to some extent.

Investing and Financing

- Bottling operations and transportation of products to retailers require long-term financing.
- Profitability is relatively high and growth is slow in the United States, leading to excess cash flow generation. Growth markets in other countries require financing from internal domestic cash flow or from external sources.

- Is the industry relatively profitable and mature, generating more cash flow from operations than is needed for acquisitions of property, plant, and equipment? Alternatively, is the industry growing rapidly and in need of external financing?

Exhibit 1.6 summarizes the economic characteristics of the soft drink/beverage industry.

STEP 2: IDENTIFY THE COMPANY STRATEGIES

Firms establish business strategies in an attempt to differentiate themselves from competitors, but an industry's economic characteristics affect the flexibility that firms have in designing these strategies. In some cases, firms can create sustainable competitive advantages. PepsiCo's size and brand name give it a sustainable competitive advantage, although Coca-Cola can boast similar advantages. The reputation for quality family entertainment provides Disney with a sustainable advantage.

In many industries, however, products and ideas quickly get copied. Consider, for example, computer hardware; chicken, pizza, and hamburger restaurant chains; and financial services. In these cases, firms may achieve competitive advantage by being the first with new concepts or ideas (referred to as *first mover advantage*) or by continually investing in product development to remain on the leading edge of change within an industry.

Framework for Strategy Analysis

The set of strategic choices confronting a particular firm varies across industries. A framework dealing with product and firm characteristics helps in structuring the choice set.

1. **Nature of Product or Service.** Is a firm attempting to create unique products or services for particular market niches and thereby achieving relatively high profit margins (referred to as a *product differentiation strategy*) or it is offering nondifferentiated products at low prices, accepting a lower profit margin in return for a higher market share (referred to as a *low-cost leadership strategy*)? Is it possible to achieve both objectives by creating brand loyalty and maintaining control over costs?
2. **Degree of Integration within Value Chain.** Is the firm pursuing a vertical integration strategy, participating in all phases of the value chain, or selecting just certain phases within the chain? With respect to manufacturing, is the firm conducting all manufacturing operations itself (as usually occurs in steel manufacturing), outsourcing all manufacturing (common in athletic shoes), or outsourcing the manufacturing of components but conducting the assembly operation in-house (common in automobile and computer hardware manufacturing)?

   With respect to distribution, is the firm maintaining control over the distribution function or outsourcing it? Some restaurant chains, for example, own all of their restaurants while other chains operate through independently owned franchises. Computer hardware firms have recently shifted from selling through their own sales staffs to using various indirect sellers, such as value-added resellers and systems integrators, in effect shifting from in-house sourcing to outsourcing of the distribution function.
3. **Degree of Geographical Diversification.** Is the firm targeting its products to its domestic market or integrating horizontally across many countries? Operating in other countries creates opportunities for growth but exposes firms to risks from exchange rate changes, political uncertainties, and additional competitors.
4. **Degree of Industry Diversification.** Is the firm operating in a single industry or diversifying across multiple industries? Operating in multiple industries permits firms to diversify product, cyclical, regulatory, and other risks encountered when operating in a single industry but raises questions about management's ability to understand and manage multiple and different businesses effectively.

Application of Strategy Framework to PepsiCo's Beverage Segment

To apply this strategy framework to PepsiCo's beverage segment, we rely on the description provided by PepsiCo's management, which we reproduce in Appendix B. Most U.S.

firms include this type of management discussion and analysis in their Form 10-K filing with the Securities and Exchange Commission (SEC).

1. **Nature of Product or Service.** PepsiCo competes broadly within the beverage industry, with offerings in soft drinks, fruit juices, bottled waters, sports drinks, teas, and coffees. However, its principal product is soft drinks. Although one might debate whether its products differ from similar products offered by Coca-Cola and other competitors, brand recognition and domination of distribution channels permit it to sell a somewhat differentiated product.
2. **Degree of Integration within Value Chain.** PepsiCo engages in new product development, manufactures concentrates and syrups, and promotes its products, while it allows its bottlers to manufacture and distribute soft drink products. This arrangement exists because PepsiCo realizes that the principal value added comprises the secret formulas that make up the concentrates and syrups, and product and brand promotion to maintain its brand name and brand loyalty. Maintaining product quality and efficient and effective distribution channels are critical to PepsiCo's success, so PepsiCo emphasizes the important role bottlers play and the oversight role PepsiCo plays to ensure its financial strength and efficient operation. Thus, a close operational relationship exists between PepsiCo and its bottlers. However, bottling operations are relatively simple, yet capital intensive; require long-term financing, typically debt; and are not particularly value enhancing. By not owning the bottling and distribution operations, PepsiCo reports greater profitability. It also appears less risky because it keeps the debt of the bottling operations off its balance sheet.

   Because of its heavy influence (seller power) over its bottlers, PepsiCo is able to price its concentrate sales to these bottlers to garner a significant portion of the profit margin for itself. The bottlers are willing to accept a lower margin because of the monopoly power given them by PepsiCo in a particular locale and the strong demand for the PepsiCo products that they produce. (In subsequent chapters, we consider PepsiCo's strategy with respect to its bottlers when we assess its profitability, quality of financial information, and risk.)

   It's interesting to note that PepsiCo's main competitor in the soft drink industry, Coca-Cola, structures its operations similarly. Just as with PepsiCo, Coca-Cola's principal products are the concentrates that it sells to bottlers, who are responsible for bottling and distributing the final Coca-Cola soft drinks.
3. **Degree of Geographical Diversification.** Note 1, "Basis of Presentation and Our Divisions" to PepsiCo's financial statements (Appendix A) and Exhibit 1.4 indicate that the firm generated 28.4 percent of its revenues during Year 4 from beverages in North America. PepsiCo derived 33.7 percent of its revenues during Year 4 from international operations, but PepsiCo does not disclose the proportion of international revenues it derived from beverages alone. Overall, PepsiCo derived about two-thirds of its revenues from within North America and one-third from other countries.
4. **Degree of Industry Diversification.** Exhibit 1.4 indicates that PepsiCo generated 32.7 percent of its Year 4 revenues from the North America snack food segment, 28.4 percent from the North America soft drinks/beverage segment, and 5.2 percent from North American cereals and related products. Because PepsiCo does not disclose the proportions of international sales it derives from snack foods, soft drinks/beverages, and cereal and related products, we cannot measure PepsiCo's worldwide mix of its product sales. Although PepsiCo is more industry diverse

than Coca-Cola, many economic characteristics of the beverage, snack food, and cereal industries are similar in nature (importance of brand recognition and distribution channels, for example).

STEP 3: ASSESS THE QUALITY OF THE FINANCIAL STATEMENTS

Business firms prepare three principal financial statements to report the results of their activities: (1) balance sheet, (2) income statement, and (3) statement of cash flows. Many firms prepare a fourth statement, the statement of shareholders' equity, which provides further detail of the shareholders' equity section of the balance sheet. Firms also include a set of notes that elaborate on items included in these statements. This section presents a brief overview of the purpose and content of each of these three financial statements, using the financial statements and notes for PepsiCo in Appendix A as examples.

Generally accepted accounting principles (GAAP) determine the valuation and measurement methods used in preparing financial statements. Official rule-making bodies set these principles. The Securities and Exchange Commission (SEC), an agency of the federal government, has the legal authority to specify acceptable accounting principles in the United States (www.sec.gov). The SEC has, for the most part, delegated the responsibility for setting GAAP to the Financial Accounting Standards Board (FASB), a private-sector body within the accounting profession (www.fasb.org). The FASB specifies acceptable accounting principles only after receiving extensive comments on proposed accounting standards from various preparers, auditors, and users of financial statements.

The International Accounting Standards Board (IASB) is an independent entity comprising fourteen members and a full-time professional staff (www.iasb.org). The IASB strives to reduce diversity in accounting principles across countries and to encourage greater standardization. Its pronouncements, however, have no enforceability of their own. Rather, the representatives to the IASB pledge their best efforts in establishing the pronouncements of the IASB as GAAP within their countries. Beginning in 2005, the financial statements of firms within the European Community must conform to the pronouncements of the IASB.

The IASB has increased its activity in recent years, and the FASB has worked closely with the IASB to harmonize reporting worldwide. Many still believe, however, that it will be some time before accounting standards conform worldwide.

Balance Sheet—Measuring Financial Position

The balance sheet, or statement of financial position, presents a snapshot of the resources of a firm (assets) and the claims on those resources (liabilities and shareholders' equity) as of a specific date.

The assets portion of the balance sheet reports the effects of a firm's operating decisions (principally those involving current assets) and investing decisions (principally those involving noncurrent assets). Refer to the balance sheet for PepsiCo on December 25 of Year 4 and December 27 of Year 3 in Exhibit 1.7. PepsiCo's principal current assets are accounts and notes receivable, inventories, and prepaid expenses. PepsiCo's principal noncurrent assets are property, plant, and equipment; intangible assets; and investments in the equity securities of noncontrolled bottlers.

The liabilities and shareholders' equity portion of the balance sheet reports the effects of a firm's operating decisions (involving most current liabilities) and financing decisions

(involving primarily noncurrent liabilities and shareholders' equity). PepsiCo obtains financing from suppliers of goods and services (reported as accounts payable and other current liabilities), bank and other loans (reported as both short-term obligations and long-term obligations), other long-term liabilities, and shareholders' equity.

The balance sheet derives its name from the fact that it shows the following balance or equality:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' Equity}$$

That is, a firm's assets or resources are in balance with, or equal to, the claims on those assets by creditors (liabilities) and owners (shareholders' equity). The balance sheet views resources from two perspectives: a list of the specific forms in which a firm holds the resources (cash, inventory, equipment) and a list of the persons or entities that provided the funds to obtain the assets and therefore have claims on them (suppliers, employees, governments, shareholders).

Formats of balance sheets in some countries differ from that in the United States. In Germany and France, for example, property, plant, and equipment and other noncurrent assets often appear first, followed by current assets. On the financing side, shareholders' equity appears first, followed by noncurrent liabilities and then current liabilities. This format maintains the balance sheet equality but presents accounts in the opposite sequence to that common in the United States.

In the United Kingdom, the balance sheet equation takes the following form:

$$\text{Noncurrent Assets} + [\text{Current Assets} - \text{Current Liabilities}] - \text{Noncurrent Liabilities} = \text{Shareholders' Equity}$$

This format takes the perspective of shareholders by reporting the assets available for shareholders after subtracting claims by creditors. Financial analysts can rearrange the components of published balance sheets to whichever format they consider most informative, although ambiguity may exist for some balance sheet categories.

Assets—Recognition, Valuation, and Classification

Which of its resources does a firm recognize as assets? At what amount does the firm report these assets? How does it classify them within the assets portion of the balance sheet? GAAP determines responses to these questions.

Assets are resources that have the potential for providing a firm with future economic benefits: the ability to generate future cash inflows (as with accounts receivable and inventories) or to reduce future cash outflows (as with prepayments). A firm recognizes as assets those resources (1) for which it has acquired rights to future use as a result of a past transaction or event, and (2) for which the firm can measure, or quantify, the future benefits with a reasonable degree of precision.[2] Resources that firms do not normally recognize as assets because they fail to meet one or both of the criteria include purchase orders received from customers, employment contracts with corporate officers, and a quality reputation with employees, customers, or citizens of the community.

Perhaps the most valuable resources of PepsiCo are its brand names (Pepsi, Frito-Lay, Quaker Oats, and others). PepsiCo, or companies it acquired, created these brand names through past expenditures on advertising, event sponsorships, product development, and quality control. Yet ascertaining the portion of these expenditures that creates sustainable

[2]Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 6,* "Elements of Financial Statements" (1985), par. 25.

EXHIBIT 1.7

PepsiCo, Inc. and Subsidiaries
Consolidated Balance Sheets
December 25, Year 4, and December 27, Year 3
(in millions except per share amounts)

	Year 4	Year 3
ASSETS		
Current Assets		
Cash and cash equivalents	$ 1,280	$ 820
Short-term investments	2,165	1,181
	3,445	2,001
Accounts and notes receivable, net	2,999	2,830
Inventories	1,541	1,412
Prepaid expenses and other assets	654	687
Total Current Assets	8,639	6,930
Property, Plant, and Equipment, net	8,149	7,828
Amortizable Intangible Assets, net	598	718
Goodwill	3,909	3,796
Other nonamortizable intangible assets	933	869
Nonamortizable Intangible Assets	4,842	4,665
Investments in Noncontrolled Affiliates	3,284	2,920
Other Assets	2,475	2,266
Total Assets	$27,987	$25,327

Continued

future benefits and the portion that simply stimulates sales during the current period is too uncertain to justify recognizing an asset. The amounts that PepsiCo does report for goodwill and other intangible assets (see Note 4, "Property, Plant, and Equipment and Intangible Assets," to PepsiCo's financial statements in Appendix A) result from PepsiCo's purchase of other companies, a transaction-based event that provides market evidence of the value of intangibles. PepsiCo's balance sheet reports $598 million of amortizable intangibles and $933 million of nonamortizable intangibles, principally brand names. The remaining $3,909 million of intangibles is goodwill, which represents the portion of the purchase price of other businesses that PepsiCo could not allocate to identifiable assets and liabilities. Chapter 7 discusses the accounting for intangibles.

Most assets on the balance sheet are either *monetary* or *nonmonetary*. Using the definition for these categories as discussed in Chapter 9 (foreign currency translation), monetary assets include cash and claims to a fixed amount of cash receivable in the future. PepsiCo's monetary assets include cash, accounts and notes receivable, and investments in the debt securities of other firms. The balance sheet reports monetary assets at the amount of cash the firm expects to receive in the future. If the date or dates of receipt extend beyond one year, the firm reports the monetary asset at the present value of the future cash flows, using a discount rate that reflects the underlying uncertainty of collecting the cash as assessed at the time the claim initially arose.

EXHIBIT 1.7

continued

	Year 4	Year 3
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current Liabilities		
Short-term obligations	$ 1,054	$ 591
Accounts payable and other current liabilities	5,599	5,213
Income taxes payable	99	611
Total Current Liabilities	6,752	6,415
Long-Term Debt Obligations	2,397	1,702
Other Liabilities	4,099	4,075
Deferred Income Taxes	1,216	1,261
Total Liabilities	14,464	13,453
Preferred Stock, no par value	41	41
Repurchased Preferred Stock	(90)	(63)
Common Shareholders' Equity		
Common stock, par value 1²/₃¢ per share (issued 1,782 shares)	30	30
Capital in excess of par value	618	548
Retained earnings	18,730	15,961
Accumulated other comprehensive loss	(886)	(1,267)
	18,492	15,272
Less: repurchased common stock, at cost (103 and 77 shares, respectively)	(4,920)	(3,376)
Total Common Shareholders' Equity	13,572	11,896
Total Liabilities and Shareholders' Equity	$27,987	$25,327

See accompanying notes to consolidated financial statements.

Nonmonetary assets include assets that are *tangible,* such as inventories, buildings, and equipment, and assets that are *intangible,* including brand names, patents, trademarks, licenses, and goodwill. In contrast to monetary assets, nonmonetary assets do not represent claims to fixed amounts of cash. The amount of cash firms receive from using or selling nonmonetary assets depends on market conditions at the time of their use or sale. Firms might report nonmonetary assets at the amounts initially paid to acquire them (acquisition, or historical, cost); the amounts required currently to acquire them (current replacement cost); the amounts for which firms could currently sell the asset (current net realizable value); or the present values of the amounts firms expect to receive in the future from selling or using the assets (present value of future cash flows). GAAP generally requires the reporting of nonmonetary assets on the balance sheet at their acquisition cost amounts because this valuation is usually more objective and verifiable than other

possible valuation bases. GAAP in some countries, such as the United Kingdom and the Netherlands, permits periodic revaluation of property, plant, and equipment to current values. Chapter 2 discusses alternative valuation methods and their implications for measuring earnings.

The classification of assets within the balance sheet varies widely in published annual reports. The principal asset categories are as follows:

Current Assets. Current assets include cash and other assets that a firm expects to sell or consume during the normal operating cycle of a business, usually one year. Cash, short-term investments, accounts and notes receivable, inventories, and prepayments appear as current assets for PepsiCo.

Investments. This category includes long-term investments in the debt and equity securities of other entities. If a firm makes such investments for short-term purposes, it classifies them under current assets. A principal asset for PepsiCo is the investments in its bottlers (Pepsi Bottling Group [PBG], PepsiAmericas, and other bottlers). Note 8, "Noncontrolled Bottling Affiliates," to PepsiCo's financial statements (Appendix A) indicates that it owns less than 50 percent of the common stock of these bottlers. PepsiCo therefore does not prepare consolidated financial statements with these bottlers, but instead reports the investments on the balance sheet using the equity method (discussed in Chapter 9).

Property, Plant, and Equipment. This category includes the tangible, long-lived assets that a firm uses in operations over a period of years. Note 4, "Property, Plant, and Equipment and Intangible Assets," to PepsiCo's financial statements (Appendix A) indicates that property, plant, and equipment includes land and improvements, buildings and improvements, machinery and equipment, and construction in progress. It reports property, plant, and equipment at acquisition cost and then subtracts the accumulated depreciation recognized on these assets since acquisition.

Intangibles. Intangibles include the rights established by law or contract to the future use of property. Patents, trademarks, and franchises are intangible assets. The most troublesome asset recognition questions revolve around which rights satisfy the criteria for an asset. As Chapter 7 discusses in more depth, firms generally recognize as assets intangibles acquired in external market transactions with other entities (as is the case for brand names and goodwill included in PepsiCo's balance sheet under the categories of amortizable and nonamortizable intangible assets, which it details in Note 4, "Property, Plant, and Equipment and Intangible Assets," in Appendix A), but do not recognize as assets intangibles developed internally by the firm (the Pepsi brand names, for example). The rationale for the different accounting treatment is that the value of intangibles acquired in external market transactions is more reliable than the value of internally developed intangibles.

Liabilities—Recognition, Valuation, and Classification

A liability represents a firm's obligation to make payments of cash, goods, or services in a reasonably predictable amount at a reasonably predictable future time for benefits or services received in the past.[3] Liabilities for PepsiCo include obligations to suppliers of goods and services (accounts payable and other current liabilities), banks (short-term obligations), governments (income taxes payable), and lenders (long-term debt obligations).

Most troublesome questions regarding liability recognition relate to executory contracts. GAAP does not recognize labor contracts, purchase order commitments, and some lease agreements as liabilities because firms will receive the benefits from these items in the future instead of having received them in the past. Notes to the financial statements disclose material, executory contracts, and other contingent claims. For example, refer to

[3] *Ibid.,* par. 35.

PepsiCo's long-term contractual commitments in Note 9, "Debt Obligations and Commitments" (Appendix A). PepsiCo lists noncancelable operating leases, purchasing commitments, marketing commitments, and debt guarantees among its executory contracts. Chapter 8 discusses these claims more fully.

Most liabilities are monetary, requiring future payments of cash. GAAP reports those due within one year at the amount of cash the firm expects to pay to discharge the obligation. If the payment dates extend beyond one year, then GAAP states the liability at the present value of the required future cash flows (discounted at an interest rate that reflects the underlying uncertainty of paying the cash as assessed at the time the obligation initially arose). Some liabilities, such as warranties, require delivery of goods or services instead of payment of cash. The balance sheet states those liabilities at the expected future cost of providing these goods and services.

Published balance sheets classify liabilities in various ways. Virtually all firms (except banks) use a current liabilities category, which includes obligations that a firm expects to settle within one year. Balance sheets report the remaining liabilities in a section labeled noncurrent liabilities or long-term debt. PepsiCo uses three noncurrent liability categories: long-term debt obligations, other liabilities, and deferred income taxes. Chapters 2 and 8 discuss deferred income taxes.

Shareholders' Equity Valuation and Disclosure

The shareholders' equity in a firm is a residual interest or claim. That is, the owners have a claim on all assets not required to meet the claims of creditors. The valuation of assets and liabilities in the balance sheet therefore determines the valuation of total shareholders' equity.[4]

Balance sheets separate total shareholders' equity into (1) amounts initially contributed by shareholders for an interest in a firm (PepsiCo uses the accounts, common stock, and capital in excess of par value), (2) cumulative net income in excess of dividends declared (PepsiCo's account is retained earnings), (3) shareholders' equity effects of the recognition or valuation of certain assets or liabilities (PepsiCo includes items related to foreign currency translation, derivatives, and pensions in accumulated other comprehensive income), and (4) treasury stock (PepsiCo shares repurchased by PepsiCo).

Assessing the Quality of the Balance Sheet as a Complete Representation of Economic Position

Analysts frequently examine the relation between items in the balance sheet when assessing a firm's financial position and credit risk. For example, an excess of current assets over current liabilities suggests that a firm has sufficient liquid resources to pay short-term creditors. A relatively low percentage of long-term debt to shareholders' equity suggests that a firm likely has sufficient long-term assets to repay the long-term debt at maturity, or at least an ability to take on new debt financing using the long-term assets as collateral to repay debt coming due.

When using the balance sheet for these purposes, however, the analyst must recognize the following:

1. Certain valuable resources of a firm that generate future cash flows, such as a patent for a pharmaceutical firm or a brand name for a consumer products firm

[4]The issuance of bonds with equity characteristics, such as convertible bonds; the issuance of equity claims with debt characteristics, such as redeemable preferred or common stock; and the issuance of obligations to be settled with the issuance of equity shares, such as stock options, cloud the distinction between liabilities and shareholders' equity.

such as PepsiCo, will appear as assets only if they were acquired from another firm and therefore have a measurable acquisition cost.

2. Nonmonetary assets appear at acquisition cost, even though their current market values might exceed their recorded amounts. An example is the market value versus recorded value of land on the balance sheets of railroads and many urban department stores.
3. Certain rights to use resources and commitments to make future payments may not appear as assets and liabilities. We generally do not see on the balance sheet of airlines, for example, their leased aircraft or their commitments to make future lease payments on those aircraft. We also do not see on the balance sheets of steel, tire, and automobile companies the rights to receive labor services or the commitments to make future payments for labor services under labor union contracts.
4. Noncurrent liabilities appear at the present value of expected cash flows discounted at an interest rate determined at the time the liability initially arose, instead of at a current market interest rate.

For certain firms under these circumstances, these factors can result in the balance sheet reporting incomplete measures of the economic position of a firm. When using the balance sheet, the analyst should consider making adjustments for items that impact balance sheet quality. Chapters 7 through 9 discuss these issues more fully.

Income Statement—Measuring Operating Performance

The total assets of a firm change over time because of investing and financing activities. For example, a firm may issue common stock for cash, acquire a building by assuming a mortgage for part of the purchase price, or issue common stock in exchange for convertible bonds. These investing and financing activities affect the amount and structure of a firm's assets, liabilities, and shareholders' equity.

The total assets of a firm also change over time because of operating activities. A firm sells goods or services to customers for a larger amount than the cost to the firm to acquire or produce the goods and services. Creditors and owners provide capital to a firm with the expectation that the firm will use it to generate a profit and provide an adequate return to the suppliers of capital for the level of risk involved.

The second principal financial statement, the income statement, provides information about the profitability of a firm for a period of time. We use the terms *net income, earnings,* and *profit* interchangeably in referring to the bottom-line amount in the income statement. Exhibit 1.8 presents the income statement for PepsiCo for Year 2, Year 3, and Year 4.

Net income equals revenues and gains minus expenses and losses. Revenues measure the inflows of assets from selling goods and providing services. Expenses measure the outflows of assets that a firm uses, or consumes, in the process of generating revenues. As a measure of performance, revenues reflect resources generated by a firm, and expenses indicate the resources consumed. Gains and losses result from selling assets or settling liabilities peripherally related to a firm's central operations for more or less than their book values. For example, the sale of a building by PepsiCo for more than its book value would appear as a gain on the income statement.

PepsiCo generates revenues from selling goods in three principal product lines: Frito-Lay snack foods; various soft drink concentrates, syrups, and bottled beverages; and Quaker Foods cereals and related items. Revenues also include interest income from

EXHIBIT 1.8

PepsiCo, Inc. and Subsidiaries
Consolidated Statements of Income
Fiscal Years Ended December 25, Year 4; December 27, Year 3; and December 28, Year 2
(in millions except per share amounts)

	Year 4	Year 3	Year 2
Net Revenue	$29,261	$26,971	$25,112
Costs of sales	13,406	12,379	11,497
Selling, general, and administrative expenses	10,299	9,460	8,958
Amortization of intangible assets	147	145	138
Impairment and restructuring charges	150	147	—
Merger-related charges	—	59	224
Operating Profit	5,259	4,781	4,295
Bottling equity income	380	323	280
Interest expense	(167)	(163)	(178)
Interest income	74	51	36
Income from Continuing Operations before Income Taxes	5,546	4,992	4,433
Provision for Income Taxes	1,372	1,424	1,433
Income from Continuing Operations	4,174	3,568	3,000
Tax Benefit of Discontinued Operations	38	—	—
Net Income	$ 4,212	$ 3,568	$ 3,000
Net Income per Common Share—Basic			
Continuing operations	$ 2.45	$ 2.07	$ 1.69
Discontinued operations	.02	—	—
Total	$ 2.47	$ 2.07	$ 1.69
Net Income per Common Share—Diluted			
Continuing operations	$ 2.41	$ 2.05	$ 1.68
Discontinued operations	.02	—	—
Total	$ 2.44*	$ 2.05	$ 1.68

*Based on unrounded amounts.
See accompanying notes to consolidated financial statements.

investments in debt instruments and equity method income from investments in affiliated but noncontrolled bottlers.

Costs of sales include the cost of manufacturing snack foods; the cost of producing concentrates, syrups, and bottled beverages; and the cost of manufacturing cereals and related items. Expenses also include selling, general, and administrative expenses (including advertising and other promotion costs) and interest expense on short- and long-term borrowing.

PepsiCo reported two other expenses on its income statement: impairment and restructuring charges in Year 3 and Year 4 and merger-related costs in Year 2 and Year 3. Note 3, "Impairment and Restructuring Charges and Merger-Related Costs," to PepsiCo's financial statements (Appendix A) describes the nature of these charges. The impairment and restructuring charges relate to the closure of manufacturing facilities. The merger-related costs result from the acquisition of Quaker Oats.

When using the income statement to assess a firm's profitability, the analyst is interested not only in its past profitability but in the likely level of sustainable earnings in the future. When projecting future earnings, the analyst must decide whether past levels of revenues and expenses will likely continue. Expenses such as cost of sales and selling, general, and administrative expenses will certainly continue at some level. The analyst must make a judgment about whether expenses such as PepsiCo's impairment and restructuring charges and merger-related costs will likely continue, and if so at what level. Chapters 4 and 6 discuss some of the factors that the analyst should consider in making these judgments. Chapter 10 provides an extensive discussion of building forecasts of future financial statements.

Accrual Basis of Accounting

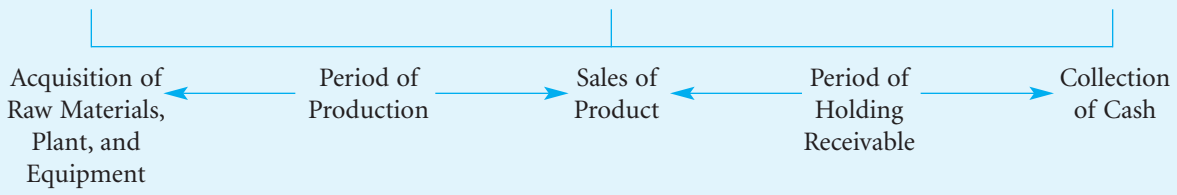
Exhibit 1.9 depicts the operating, or earnings, cycle for a manufacturing firm. Net income from this series of activities equals the amount of cash received from customers minus the amount of cash paid for raw materials, labor, and the services of production facilities. If the entire operating cycle occurred within one accounting period, few difficulties would arise in measuring operating performance. Net income would equal cash inflows minus cash outflows related to these operating activities. However, firms acquire raw materials in one accounting period and use them in several future accounting periods. They acquire buildings and equipment in one accounting period and use them during many future accounting periods. A firm often sells goods or services in an earlier period than the one in which it receives cash from customers.

Under a cash basis of accounting, a firm recognizes revenue when it receives cash from customers and recognizes expenses when it pays cash to suppliers, employees, and other providers of goods and services. Because a firm's operating cycle usually extends over several accounting periods, the cash basis of accounting provides a poor measure of performance for specific periods of time because it provides a poor matching of resources earned (revenues) with resources used (expenses). To overcome this deficiency of the cash basis, GAAP generally requires that firms use the accrual basis of accounting in measuring performance.

Under the accrual basis of accounting, a firm recognizes revenue when it meets two criteria: (1) it has completed all (or substantially all) of the revenue-generating process by

EXHIBIT 1.9

Operating Cycle for a Manufacturing Firm



delivering products or services to customers, and (2) it has received cash or is reasonably certain it will collect a receivable whose cash-equivalent amount the firm can measure reliably. Most firms recognize revenue at the time they sell goods or render services. They measure profit by matching expenses with the associated revenues, to the extent such matching is possible. Consider the accrual basis of accounting applied to a manufacturing firm. The cost of manufacturing a product remains on the balance sheet as an asset (inventory) until the time of sale. At the time of sale, the firm recognizes revenue in the amount of cash it expects to collect. It recognizes the cost of manufacturing the product as a matching expense. When a firm cannot clearly match costs to a particular revenue (for example, the salary of the chief executive officer likely influences all revenues recognized during a period), it recognizes an expense in the period when it consumes those resources (that is, matching expenses to a period rather than to a specific revenue).

Note that a firm need not delay revenue recognition until it receives cash from customers as long as the firm can estimate with reasonable precision the amount of cash it will ultimately receive. The amount will appear in accounts receivable prior to the receipt of cash. The accrual basis provides a better measure of operating performance than the cash basis because it matches inputs with outputs more accurately.

Classification and Format within the Income Statement

Investors commonly assess a firm's value based on the firm's expected future sustainable earnings stream. As Chapter 10 discusses more fully, analysts predict the future earnings, or net income, of a firm by studying the past trend of earnings. Inaccurate projections from past data can occur if net income includes unusual or nonrecurring amounts (such as the impairment and restructuring charges and merger-related costs discussed previously for PepsiCo). To provide more useful information for prediction, GAAP requires that the income statement include some or all of the following sections or categories, depending on the nature of the firm's income for a period:

1. Income from continuing operations.
2. Income, gains, and losses from discontinued operations.
3. Extraordinary gains and losses.

Income from Continuing Operations. The first section, Income from Continuing Operations, reports the revenues and expenses of activities in which a firm anticipates an ongoing involvement. If a firm does not have items in the second and third categories of income in a particular year, it will probably not use the continuing-operations label as such.

Firms report their expenses in various ways. Most firms in the United States report expenses by their function: cost of goods sold for manufacturing, selling expenses for marketing, administrative expenses for administrative management, and interest expense for financing. Other firms, particularly those in the European Community, report expenses by their nature: raw materials, compensation, advertising, and research and development.

The continuing-operations section of the income statement frequently appears in two formats. The single-step format lists all revenues and all expenses and then derives net income in a single mathematical step as the difference between the two. The multiple-step format generally lists revenues from selling a firm's goods and services and then shows subtractions for the cost of goods and services sold and the costs of selling and administrative services. The multiple-step format then reports a subtotal for operating income. The income statement then reports nonoperating revenues (interest income, equity income), nonoperating expenses (interest expense), and nonoperating gains and losses. The multiple-step format derives its name from the various subtotals that generally appear

before the disclosure of net income. PepsiCo uses this multiple-step format, but many variations in income statement format appear in corporate annual reports.

Income from Discontinued Operations. A firm that intends to remain in a line of business but decides to sell or close down some portion of that line would report any income, gain, or loss from such an action under continuing operations. On the other hand, if a firm decides to terminate its involvement in a line of business, it would report the income, gain, or loss in the second section of the income statement, labeled Income, Gains, and Losses from Discontinued Operations.

During Year 4, PepsiCo reported a $38 million tax benefit related to discontinued operations. PepsiCo discontinued its restaurant business in a year prior to Year 2. At the time of the discontinuance, PepsiCo recognized an estimated amount of taxes on the transaction. Some of this estimated amount must have been subject to disagreement with taxing authorities. During Year 4, it reached final agreement with taxing authorities on the amount of taxes related to this discontinued operation. The final amount was less than the amount initially estimated, resulting in an increase in earnings for Year 4.

Extraordinary Gains and Losses. Extraordinary gains and losses arise from events that are (1) unusual, given the nature of a firm's activities, (2) nonrecurring, and (3) material in amount. Corporate annual reports rarely disclose such items.

Many firms, including PepsiCo, have reported restructuring charges and impairment losses in their income statements in recent years. Such items often reflect the write-down of assets or the recognition of liabilities arising from changes in economic conditions and corporate strategies. Because restructuring charges and impairment losses do not usually satisfy the criteria for discontinued operations or extraordinary items, firms report them in the continuing-operations section of the income statement. If the amounts are material, they appear on a separate line to distinguish them from recurring-income items.

Income, gains, and losses from discontinued operations and extraordinary gains and losses appear in the income statement net of any income tax effects. The majority of published income statements include only the first section because discontinued operations and extraordinary gains and losses occur infrequently.

Comprehensive Income

The recognition and valuation of assets and liabilities usually give rise to an adjustment to some other account. This other account is often a revenue or expense account. For example, a firm might sell inventory for cash. Cash increases by the amount of the selling price, and revenues, a component of retained earnings, increase. Inventory decreases by the amount of the acquisition cost of the inventory item sold, and expenses, a negative component of retained earnings, increases.

Some changes in the recognition and valuation of assets and liabilities do not immediately affect net income and retained earnings but will likely affect them in future periods. Chapter 9 discusses, for example, the effect of exchange rate changes on the valuation of assets and liabilities of a foreign subsidiary of a U.S. company. Any gain or loss from exchange rate changes is unrealized until the foreign unit makes a currency conversion from its currency into U.S. dollars. These unrealized "gains" and "losses" appear in a separate shareholders' equity account titled Accumulated Other Comprehensive Income or Loss.

Review the Consolidated Statement of Common Shareholders' Equity for PepsiCo in Appendix A. It details three items in accumulated other comprehensive loss that relate to the valuation of assets and liabilities: (1) currency translation adjustment, (2) cash flow hedges, net of tax, and (3) minimum pension liability adjustment, net of tax. (Later chapters discuss the accounting for each of these items.)

The FASB is aware that users of financial statements might overlook items of this nature that affect the market value of firms but do not yet appear in net income. It there-

fore requires firms to report an amount in one of their financial statements that the FASB refers to as comprehensive income.[5]

Comprehensive income equals net income for a period plus or minus the changes in shareholders' equity accounts other than from net income and transactions with owners. Refer to PepsiCo's consolidated statement of common shareholders' equity in Appendix A, which shows the change in accumulated other comprehensive income each year. Comprehensive income for PepsiCo for Year 4 is as follows (in millions):

Net income	$4,212
Currency translation adjustment	401
Cash flow hedges, net of tax	(7)
Minimum pension liability adjustment, net of tax	(19)
Other	6
Comprehensive income	$4,593

Firms have considerable flexibility as to where they report comprehensive income in the financial statements. It may appear in the income statement, in a separate statement of comprehensive income, or as part of the analysis of changes in shareholders' equity accounts. PepsiCo uses this last method of disclosure.

Firms also have flexibility as to how they label disclosures related to comprehensive income. That is, firms need not use the term "comprehensive income" but instead may label the amount, for example, as net income plus or minus changes in other non-owner equity accounts. The balance sheet disclosure might use the term "accumulated other comprehensive income/loss" for the portions of comprehensive income not related to reported earnings, or use a term such as "accumulated non-owner equity account changes."

Appendix A indicates that PepsiCo uses the term "Accumulated Other Comprehensive Loss" in its Consolidated Balance Sheet. In addition, PepsiCo reports the accumulated balances for each component of its comprehensive income in Note 13, "Accumulated Other Comprehensive Loss," to the financial statements.

Assessing the Quality of Earnings as a Complete Representation of Economic Performance

Common stock prices in the capital markets usually react quickly when firms announce new earnings information, indicating that earnings play an important role in the valuation of firms. We provide some striking empirical evidence of the association between earnings and stock returns later in this chapter. In using earnings information for valuation, however, the analyst needs to be alert to the possibility that reported earnings for a particular period represent an incomplete measure of current period profitability, or are a poor predictor of ongoing sustainable profitability. For example, reported net income may exclude certain gains or losses that have not yet been realized in cash. Reported net income may also include amounts that are not likely to recur in the future, such as restructuring or impairment charges; income, gains, and losses from discontinued operations; or extraordinary gains or losses. The analyst may wish to eliminate the effects of nonrecurring items when assessing operating performance for purposes of forecasting future earnings.

Management can also use subtle means to manage earnings. For example, a firm might reduce its estimate of bad-debt expense or warranty expense, cut back on advertising or research and development expenditures, or delay maintenance expenditures as a

[5]Financial Accounting Standards Board, *Statement of Financial Accounting Standards Statement No. 130,* "Reporting Comprehensive Income" (1997).

EXHIBIT 1.10

PepsiCo, Inc. and Subsidiaries
Consolidated Statements of Cash Flows
Fiscal Years Ended December 25, Year 4; December 27, Year 3; and December 28, Year 2
(in millions)

	Year 4	Year 3	Year 2
Operating Activities			
Net income	$4,212	$3,568	$3,000
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation and amortization	1,264	1,221	1,112
Stock-based compensation expense	368	407	435
Merger-related costs	—	59	224
Impairment and restructuring charges	150	147	—
Cash payments for merger-related costs and restructuring charges	(92)	(109)	(123)
Tax benefit from discontinued operations	(38)	—	—
Pension plan contributions	(458)	(535)	(820)
Bottling equity income, net of dividends	(297)	(276)	(222)
Deferred income taxes	17	(323)	174
Other noncash charges and credits, net	341	415	263
Changes in operating working capital, excluding effects of acquisitions and dispositions:			
Accounts and notes receivable	(130)	(220)	(260)
Inventories	(100)	(49)	(53)
Prepaid expenses and other current assets	(31)	23	(78)
Accounts payable and other current liabilities	216	(11)	426
Income taxes payable	(268)	182	270
Net change in operating working capital	(313)	(75)	305
Other	(100)	(171)	279
Net Cash Provided by Operating Activities	5,054	4,328	4,627

Continued

means of increasing earnings in a particular period. Chapter 6 discusses the concept of the quality of accounting information and illustrates the adjustments that the analyst might make to improve the quality of earnings.

Statement of Cash Flows

The third principal financial statement is the statement of cash flows. This statement reports for a period of time the net cash flows (inflows minus outflows) from three principal business activities: operating, investing, and financing. Exhibit 1.10 presents the statement of cash flows for PepsiCo for Year 2, Year 3, and Year 4.

EXHIBIT 1.10

continued

	Year 4	Year 3	Year 2
Investing Activities			
Capital spending	(1,387)	(1,345)	(1,437)
Sales of property, plant, and equipment	38	49	89
Acquisitions and investments in noncontrolled affiliates	(64)	(71)	(351)
Divestitures	52	46	376
Short-term investments, by original maturity			
More than three months—purchases	(44)	(38)	(62)
More than three months—maturities	38	28	122
Three months or less, net	(963)	(940)	697
Snack Ventures Europe consolidation	—	—	39
Net Cash Used for Investing Activities	(2,330)	(2,271)	(527)
Financing Activities			
Proceeds from issuances of long-term debt	504	52	11
Payments of long-term debt	(512)	(641)	(353)
Short-term borrowings, by original maturity			
More than three months—proceeds	153	88	707
More than three months—payments	(160)	(115)	(809)
Three months or less, net	1,119	40	40
Cash dividends paid	(1,329)	(1,070)	(1,041)
Share repurchases—common	(3,028)	(1,929)	(2,158)
Share repurchases—preferred	(27)	(16)	(32)
Proceeds from exercises of stock options	965	689	456
Net Cash Used for Financing Activities	(2,315)	(2,902)	(3,179)
Effect of exchange rate changes on cash and cash equivalents	51	27	34
Net Increase (Decrease) in Cash and Cash Equivalents	460	(818)	955
Cash and Cash Equivalents, Beginning of Year	820	1,638	683
Cash and Cash Equivalents, End of Year	$1,280	$ 820	$1,638

See accompanying notes to consolidated financial statements.

Rationale for the Statement of Cash Flows

The statement of cash flows provides information on the sources and uses of cash. Even profitable firms, and especially those growing rapidly, sometimes find themselves strapped for cash and unable to pay suppliers, employees, and other creditors. This can occur for two principal reasons:

1. The timing of cash receipts from customers does not necessarily coincide with the recognition of revenue, and the timing of cash expenditures does not necessarily coincide with the recognition of expenses under the accrual basis of accounting. In the usual case, cash expenditures precede the recognition of expenses and cash receipts occur after the recognition of revenue. Thus, a firm might have positive net income for a period but a cash outflow for operations that exceeds the cash inflow.
2. The firm may need to acquire new property, plant, and equipment; retire outstanding debt; or reacquire shares of its common stock when there is insufficient cash available.

In many cases, a profitable firm finding itself short of cash can obtain the needed funds from either short- or long-term creditors or owners. The firm must repay with interest the funds borrowed from creditors. Owners may require that the firm pay periodic dividends as an inducement to invest in the firm. Eventually, the firm must generate sufficient cash from operations if it is to survive.

Cash flows are the connecting link between operating, investing, and financing activities. They permit each of these three principal business activities to continue functioning smoothly and effectively. The statement of cash flows also can be helpful in assessing a firm's past ability to generate free cash flows and for predicting future free cash flows. The concept of free cash flows is first introduced in Chapter 3. As discussed in Chapter 12, free cash flows are central to cash flow-based valuation models.

An examination of the statement of cash flows for PepsiCo reveals that cash flow from operations exceeded the net cash outflow for investing activities in each of the three years. PepsiCo used the excess cash flow to reduce debt, to pay dividends to shareholders, and to repurchase shares of its common stock.

Classification of Cash Flows

The statement of cash flows classifies cash flows as relating to either operating, investing, or financing activities.

Operating. Selling goods and providing services are among the most important ways that a financially healthy company generates cash. Assessing cash flow from operations over several years indicates the extent to which operating activities have provided the necessary cash to maintain operating capabilities, and the extent to which firms have had to rely on other sources of cash.

Investing. The acquisition of long-lived productive assets, particularly property, plant, and equipment, usually represents major ongoing uses of cash. Firms must replace such assets as they wear out and acquire additional long-lived productive assets if they are to grow. Firms obtain a portion of the cash needed to acquire long-lived productive assets from sales of existing assets. However, such cash inflows are seldom sufficient to cover the cost of new acquisitions.

Financing. A firm obtains cash from short- and long-term borrowing and from issuing preferred and common stock. It uses cash to repay short- and long-term borrowing, to pay dividends, and to reacquire shares of outstanding preferred and common stock.

Firms sometimes engage in investing and financing transactions that do not directly involve cash. For example, a firm might acquire a building by assuming a mortgage obligation. It might issue common stock upon conversion of long-term debt. Firms disclose these transactions in a supplementary schedule or note to the statement of cash flows in a way that clearly indicates that they are investing and financing transactions that do not

affect cash. PepsiCo reports the portion of its acquisitions in recent years that did not directly involve the use of cash in Note 14 under Supplemental Financial Information.

The statement of cash flows is required under both U.S. and IASB GAAP, but it is not a required financial statement in some countries. Increasingly, however, large international firms are providing the statement on a voluntary basis. Chapter 3 describes and illustrates analytical procedures for preparing a statement of cash flows in situations where firms provide only a balance sheet and income statement.

Independent Auditor's Opinion and the Sarbanes-Oxley Act of 2002

A firm's accounting system records the results of transactions, events, and commercial arrangements and generates the financial statements. The design and operation of the accounting system are the responsibility of a firm's management. The SEC and most stock exchanges, however, require firms with publicly traded common stock to have their accounting records and financial statements audited by independent auditors. The independent auditor's attestation as to the fairness and reliability of a firm's financial statements relative to GAAP is an essential element in the efficiency of the capital markets. Investors and other users of the financial statements can rely on financial statements for essential information about a firm only if they are confident that the independent auditor has examined the accounting records and concluded that the financial statements are fair and reliable according to GAAP.

In response to some managers' misrepresenting their financial statements and audit breakdowns in now infamous cases involving Enron, Global Crossing, Qwest Communications, and other firms, Congress passed the Sarbanes-Oxley Act of 2002 (www.sarbanes-oxley.com). This act defines more clearly the explicit responsibility of managers for financial statements, the relation between the independent auditor and the firm audited, and the kinds of services permitted and not permitted. Exhibit 1.11 summarizes some of the more important provisions of the Sarbanes-Oxley Act as they relate to financial statements.

For many years firms have included with their financial statements a report by management that states its responsibility for the financial statements. The Sarbanes-Oxley Act of 2002 now requires that the management report include a statement that management also assumes responsibility for establishing and maintaining adequate internal control structure and procedures (referred to as the *Management Assessment*). This new requirement now makes explicit management's responsibility not only for the financial statements but also for the underlying accounting and control system that generates the financial statements. The chief executive officer and the chief financial officer must sign this management report. PepsiCo's management report appears in Appendix A.

Also for many years, the independent auditor assessed a firm's internal control system, designed its audit tests in light of the quality of these internal controls, and then formed an opinion about the fairness of the amounts reported in the financial statements based on its audit tests. The independent auditor must now include opinions on both the effectiveness of the internal control system (referred to as the *Assurance Opinion*) and the fairness of the amounts reported in the financial statements. This dual opinion makes explicit the independent audit's responsibility for both testing the effectiveness of the internal control system and then judging the fairness of the amounts reported. The report of PepsiCo's independent auditor appears in Appendix A after Note 14, "Supplemental Financial Information." Note that the last paragraph includes opinions on both the internal control system and the financial statements and reads as follows:

EXHIBIT 1.11

Summary of the Principal Provisions of the Sarbanes-Oxley Act of 2002

1. Violation of the provisions of the Sarbanes-Oxley Act of 2002 is a violation of the Securities Exchange Act of 1934. The Securities Exchange Act of 1934 governs the public trading of securities.
2. The Sarbanes-Oxley Act of 2002 created the Public Company Accounting Oversight Board (PCAOB), which has responsibility for setting generally accepted auditing standards, ethics standards, and quality-control standards for audits.
3. The SEC has oversight and enforcement authority over the PCAOB.
4. The act precludes a registered public accounting firm from performing non-audit services contemporaneously with the audit. Certain services, such as tax work, are allowed if they are preapproved by the firm's audit committee or constitute less than 5 percent of the billing price for audit and other services.
5. The lead audit or coordinating partner and the reviewing partner of the public accounting firm must rotate, or change, every five years.
6. Members of the audit committee of a firm's board of directors will have primary responsibility for appointment, oversight, and compensation of the registered public accounting firm.
7. At least one member of the audit committee of the board of directors must be a "financial expert."
8. The firm's chief executive officer and the chief financial officer must issue a statement along with the audit report stating that the financial statements and notes fairly present the operations and financial position of the firm.
9. Each annual report must contain an "internal control report" that states management's responsibility for establishing and maintaining an adequate internal control structure and procedures (Management Assessment Report). The annual report must also contain an assessment of the effectiveness of the internal control structure and procedures by the firm's auditor (Assurance Opinion). The assurance opinion can be unqualified, qualified, adverse, or a disclaimer, the same as the independent accountant's opinion on the financial statements and notes.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of PepsiCo, Inc. and Subsidiaries as of December 25, Year 4 and December 27, Year 3, and the results of their operations and their cash flows for each of the years in the three-year period ended December 25, Year 4, in conformity with the United States generally accepted accounting principles. Also, in our opinion, management's assessment that PepsiCo, Inc. maintained effective internal control over financial reporting as of December 25, Year 4, is fairly stated, in all material respects, based on criteria established in Internal Control-Integrated Framework issued by COSO. Furthermore, in our opinion, PepsiCo, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 25, Year 4, based on criteria established in Internal Control-Integrated Framework issued by COSO.

Summary of Financial Statements, Notes, and Accountant's Opinion

The three principal financial statements report various aspects of a firm's operating, investing, and financing activities. The balance sheet reports the results of firms' decisions to

acquire assets and the financing of those assets. Most current assets result from operating decisions (credit policies for customers, control systems for inventories) and most noncurrent assets result from investing decisions (plant capacity, access to patents). Firms typically use current liabilities to finance current assets and therefore link with operating decisions. Firms typically use long-term debt and common stock to finance noncurrent assets.

The income statement primarily reflects the results of operating decisions (product mix and pricing, insourcing or outsourcing of production and marketing). The income statement also reports amounts related to investing decisions (depreciation and amortization expense) and financing decisions (interest expense).

The statement of cash flows classifies the reasons that cash changes during a period into operating, investing, and financing categories.

The independent auditor's opinion includes statements about both the quality and effectiveness of the firm's internal control system and the fairness of its financial statements and notes in reporting a firm's financial position, performance, and cash flows. The independent audit adds credibility to the financial statements and notes prepared by management.

STEP 4: ANALYZE PROFITABILITY AND RISK

Armed with three key building blocks—(1) an understanding of the economics of the industry in which a firm competes, (2) an understanding of the particular strategies that the firm has chosen to compete in its industry, and (3) an assessment of the quality of the financial statements and notes that report the results of a firm's operating, investing, and financing activities—the analyst is ready to conduct a financial statement analysis.

Most financial statement analysis aims to assess a firm's profitability and risk. This twofold focus stems from the emphasis of investment decisions on returns and risk. Investors acquire shares of common stock in a company because of the return they expect from such investments. This return includes any dividends received plus the change in the market price of the shares of stock while the investor holds them. A rational investor will not be indifferent between two investments that are expected to yield, say, 20 percent return, if there are differences in the uncertainty, or risk, of earning 20 percent. The investor will demand a higher expected return from higher-risk investments to compensate for the additional risk assumed.

The income statement reports a firm's net income during the current and prior years. Assessing the profitability of the firm during these periods, after adjusting as appropriate for nonrecurring or unsustainable items, permits the analyst both to evaluate the firm's past profitability and to begin forecasting its likely future profitability. Empirical research has shown an association between earnings and market rates of return on common stock, a point discussed briefly in the next section in this chapter and in greater depth in Chapters 13 and 14 of the book.

Financial statements are also useful for assessing the risk of a firm. Empirical research has shown that volatility in reported earnings over time is correlated with stock market–based measures of firm risk, such as market equity beta. In addition, firms that are unable to generate sufficient cash flow from operations will likely encounter financial difficulties and perhaps even bankruptcy. Firms that have high proportions of debt in their capital structures will experience financial difficulties if they are unable to repay the debt at maturity or replace maturing debt with new debt. Assessing the financial risk of a firm assists the investor in identifying the level of risk incurred when investing in the firm's common stock.

Tools of Profitability and Risk Analysis

Most of this book describes and illustrates tools for analyzing financial statements. Our purpose here is simply to introduce several of these tools as a broad overview.

Common-Size Financial Statements

One analytical tool is common-size financial statements, a tool that is helpful in highlighting financial data relations both within statements and across statements. Common-size statements express all items in a particular financial statement as a percentage of some common base. Common-size balance sheets often use total assets as the base. Sales revenue is a common base in a common-size income statement.

The first two columns of Exhibit 1.12 present common-size balance sheets for PepsiCo for Year 3 and Year 4. Note the stability of the various common-size percentages for PepsiCo over this two-year period. PepsiCo experienced a significant increase in the proportion of assets comprising cash and marketable securities during Year 4. To understand better the reasons for the increased proportion of cash and marketable securities, refer to PepsiCo's statement of cash flows in Exhibit 1.10. We see there that increased net income led to increased cash flow from operations. The cash flow from operations was more than sufficient to finance expenditures on property, plant, and equipment. PepsiCo used the excess cash plus cash from additional short-term borrowing and issuing common stock to pay dividends and repurchase shares of its own stock. PepsiCo invested a portion of the remaining excess cash in marketable securities, leading to the increased common-size percentage for cash and marketable securities.

The proportion of shareholders' equity comprising retained earnings increased, but so did the proportion of treasury stock. Again, we can look at PepsiCo's statement of cash flows in Exhibit 1.10 to see that the retention of earnings increased retained earnings and total shareholders' equity by $2,883 million (= $4,212 − $1,329), whereas treasury stock purchases totaled $3,055 million, thereby reducing total shareholders' equity. These two changes were largely offsetting.

The first two columns of Exhibit 1.13 present common-size income statements for PepsiCo for Year 3 and Year 4. Note that net income as a percentage of sales (also known as the *profit margin*) increased from 13.2 percent in Year 3 to 14.4 percent in Year 4. Most expenses as a percentage of sales revenue remained stable between the two years. The increased profit margin results primarily from a smaller amount of impairment, restructuring, and merger-related expenses as a percentage of sales, a reduction of PepsiCo's tax burden (which we discuss more fully in Chapter 8), and the tax benefit of discontinued operations. Management's discussion and analysis of operations presented in Appendix B explains some of these changes. The task of the financial analyst is to delve into the reasons for such changes, taking into consideration industry economics, company strategies, management's explanations, and the operating results for competitors. We explore the reasons for PepsiCo's increased profit margin in Chapter 4.

The analyst must interpret common-size financial statements carefully. The amount for any one item in these statements is not independent of all other items. The dollar amount for an item might increase between two periods but its relative percentage in the common-size statement would decrease (or remain the same) if the dollar amount increased at a smaller rate than other items. For example, the dollar amounts for accounts and notes receivable, inventories, property, plant and equipment, and intangibles and other assets all increased between Year 3 and Year 4, but their common-size percentages decreased because they did not increase at as fast a rate as cash and marketable securities. Common-size percentages provide a general overview of financial position and operating performance, but the analyst must supplement them with other analytical tools.

EXHIBIT 1.12

Common-Size and Percentage Change Balance Sheets for PepsiCo

	Common Size		Percentage Change	
	Year 4	Year 3	Year 4	Five-Year Compound Annual Growth Rate
Assets				
Cash and Short-Term Investments	12.3%	7.9%	72.2%	20.8%
Accounts and Notes Receivable, net	10.7	11.2	6.0%	8.9%
Inventories	5.5	5.6	9.1%	5.8%
Other Current Assets	2.4	2.7	(4.8%)	(1.5%)
Total Current Assets	30.9%	27.4%	24.7%	10.8%
Investments	11.7	11.5	12.5%	2.9%
Property, Plant, and Equipment, net	29.1	30.9	4.1%	5.0%
Intangible and Other Assets	28.3	30.2	3.5%	7.3%
Total Assets	100.0%	100.0%	10.5%	7.0%
Liabilities and Shareholders' Equity				
Accounts Payable	6.2%	6.5%	5.7%	5.3%
Short-Term Obligations	3.8	2.3	78.3%	22.1%
Other Current Liabilities	14.2	16.5	(5.2%)	5.7%
Total Current Liabilities	24.2%	25.3%	5.3%	7.4%
Long-Term Debt Obligations	8.6	6.7	40.8%	(7.4%)
Deferred Tax	4.3	5.0	(3.6%)	0.1%
Other Noncurrent Liabilities	14.6	16.1	0.6%	3.9%
Total Liabilities	51.7%	53.1%	7.5%	2.4%
Preferred Stock	.1%	.2%	0.0%	12.3%
Common Stock	.1	.1	0.0%	(2.5%)
Additional Paid-In Capital	2.2	2.2	12.8%	2.0%
Retained Earnings	66.9	63.0	17.3%	4.7%
Accumulated Other Comprehensive Income (Loss)	(3.1)	(5.0)	(30.1%)	(7.4%)
Treasury Stock	(17.9)	(13.6)	45.7%	(7.3%)
Total Shareholders' Equity	48.3%	46.9%	13.9%	13.7%
Total Liabilities and Shareholders' Equity	100.0%	100.0%	10.5%	7.0%

Percentage Change Statements

Another analytical tool is percentage change financial statements, a tool that is helpful in highlighting the relative magnitudes of changes in financial statement data from year to year and over longer periods of time. These statements present the percentage change in

EXHIBIT 1.13

Common-Size and Percentage Change Income Statements for PepsiCo

	Common Size		Percentage Change	
	Year 4	Year 3	Year 4	Five-Year Compound Annual Growth Rate
Sales	100.0%	100.0%	8.5%	3.5%
Interest and Other Revenues	1.6	1.4	21.4%	20.5%
Cost of Sales	(45.8)	(45.9)	8.3%	7.0%
Selling, General, and Administrative Expenses	(35.2)	(35.1)	8.9%	(1.9%)
Amortization of Intangibles	(0.5)	(0.5)	1.4%	0.0%
Impairment, Restructuring, and Merger-Related Costs	(0.5)	(0.8)	(27.2%)	(5.0%)
Interest Expense	(0.6)	(0.6)	2.5%	(11.5%)
Income Before Income Taxes	19.0%	18.5%	11.1%	10.2%
Income Tax Expense	(4.7)	(5.3)	(3.7%)	3.0%
Income from Continuing Operations	14.3%	13.2%	17.0%	13.2%
Tax Benefit of Discontinued Operations	0.1	—	—	—
Net Income	14.4%	13.2%	18.0%	13.4%

the amount of an item relative to its amount in the previous period, or the average change over several prior periods.

The third and fourth columns of Exhibit 1.12 present changes in balance sheet items between Year 3 and Year 4 and the compound annual growth rates for the preceding five years for PepsiCo. Note that the percentage change in cash and marketable securities is the largest change between Year 3 and Year 4, consistent with the preceding observations with respect to changes in the common-size balance sheet. Another large percentage change between Year 3 and Year 4 occurred for short-term obligations. PepsiCo does not rely heavily on short-term borrowing. Although it increased its amount of short-term borrowing in Year 4, the amount of such borrowing in Year 3 is sufficiently small that the increase represents a large percentage change. Another large percentage change between Year 3 and Year 4 occurred for long-term debt obligations. PepsiCo's statement of cash flows in Exhibit 1.10 does not show much net change in long-term debt. Note 9, "Debt Obligations and Commitments," to PepsiCo's financial statements (Appendix A) explains why long-term debt increased. The firm reclassified a portion of its short-term borrowing as long-term debt because of the firm's intent and ability to refinance the short-term debt with long-term debt at maturity, a procedure allowed by GAAP. This reclassification affects the amount of long-term debt but does not appear in the statement of cash flows.

An examination of the compound annual growth rates in PepsiCo's balance sheet for the past five years reveals a significant increase in cash and marketable securities and in

short-term borrowing. Most of these five-year rates of increase occurred, however, between Year 3 and Year 4.

The analyst must exert particular caution when interpreting percentage change balance sheets for any particular year. If the amount for the preceding year that serves as the base is relatively small, then even a small change in dollar amount can result in a large percentage change. This is the case, for example, with short-term obligations, discussed previously. Note also that the percentage change in accumulated other comprehensive loss for Year 4 was (30.1) percent. This change reflects a decrease in the amount from a negative $1,267 million in Year 3 to a negative $886 million in Year 4. However, note that accumulated other comprehensive loss comprises only 5.0 percent of total liabilities plus shareholders' equity at the end of Year 4. A large percentage change in an account that makes up only a small portion of total financing is not as meaningful as a smaller percentage change in an account that makes up a larger portion of total assets or total financing.

The third and fourth columns of Exhibit 1.13 present percentage change income statement amounts for PepsiCo. Note that for the preceding five years, net income for PepsiCo increased significantly faster than sales. Selling, general, and administrative expenses and interest expenses actually decreased, resulting in a significant increase in the growth rate of net income.

Financial Statement Ratios

Perhaps the most useful analytical tools for assessing profitability and risk are financial statement ratios. Financial statement ratios express relationships between various items from the three financial statements. Researchers and practitioners have found that such ratios serve as effective indicators of various dimensions of profitability and risk. Chapters 4 and 5 discuss these financial ratios in depth. This discussion merely introduces several of them.

Profitability Ratios. Perhaps the most commonly encountered financial ratio is earnings per common share (EPS). Basic EPS equals net income available to the common shareholders (that is, net income minus dividends on preferred stock) divided by the weighted average number of common shares outstanding. For Year 4, basic EPS for PepsiCo from continuing operations (see Exhibit 1.8 and Note 11, "Net Income per Common Share from Continuing Operations," to PepsiCo's financial statements in Appendix A) is $2.45 [(= $4,174 − $25)/1,696 shares]. Firms typically report both basic and diluted EPS in their income statements, with per share amounts for continuing operations, discontinued operations, and extraordinary gains and losses shown separately. Chapter 4 discusses the computation of EPS. As Chapter 14 makes clear, financial analysts often use a multiple of EPS to derive what they consider an appropriate price for a firm's common stock.

Another profitability ratio is the rate of return on common shareholders' equity (ROCE). ROCE equals net income available to the common shareholders divided by average common shareholders' equity for the year. ROCE for PepsiCo for Year 4 from continuing operations is 32.6 percent [= ($4,174 − $25)/(0.5($11,896 + $13,572))]. This ROCE is large relative to those of many firms. However, we should expect PepsiCo to generate a high rate of return for its shareholders because it has developed an effective and sustainable strategy as one of only two major players in the soft drink industry, which we assessed to have relatively favorable competitive conditions. This example illustrates that it is difficult to interpret ROCE and other financial ratios without a frame of reference. Analysts compare ratios to corresponding ratios of earlier periods (time-series analysis), to corresponding ratios of other firms in similar industries (cross-sectional

analysis), and to average industry ratios in order to interpret the ratios. Chapter 4 provides an in-depth analysis of PepsiCo's ROCE and other profitability ratios.

Risk Ratios. To assess the volatility in a firm's earnings over time and to gauge the uncertainty inherent in the firm's future earnings, analysts can calculate the standard deviation in ROCE over time.

To assess the ability of firms to repay short-term obligations, analysts frequently calculate the current ratio, which equals current assets divided by current liabilities. The current ratio for PepsiCo at the end of Year 4 is 1.28 (= $8,639/$6,752). As with profitability ratios, this ratio is meaningful only when the analyst performs a time-series and cross-sectional analysis. Most firms have current ratios that exceed 1.0, so PepsiCo would appear to have minimal short-term risk.

To assess the ability of firms to continue operating for a longer term (that is, to avoid bankruptcy), the analyst looks at the amount of long-term debt in the capital structure. The ratio of long-term debt to shareholders' equity for PepsiCo at the end of Year 4 is 17.7 percent (= $2,397/$13,523). This percentage for PepsiCo declined in the recent years but increased slightly in Year 4. Thus, PepsiCo would appear to have low debt levels. Given PepsiCo's level of profitability and low debt levels, bankruptcy risk is very low. Chapter 5 provides an in-depth analysis of PepsiCo's debt to equity ratio and other risk ratios.

STEP 5: PREPARE FORECASTED FINANCIAL STATEMENTS

The analyst uses financial statement ratios, common-size and percentage change statements, and other analytical tools both to evaluate the profitability and risk of the firm in the recent past and to provide useful information to begin forecasting future financial statements. Forecasted financial statements rely on assumptions that the analyst makes about the future: Will the firm's strategy remain the same or change? Will the firm likely gain or lose market share relative to competitors? Will its costs change? Will it change the mix of debt versus equity financing? Responses to these and other questions provide the basis for preparing forecasted income statements, balance sheets, and statements of cash flows. The analyst can compare financial ratios of forecasted financial statement items with the corresponding ratios from the reported financial statements to judge the reasonableness of the assumptions made. Amounts from the forecasted financial statements serve as the basis for the valuation models in step 6, discussed next. Chapter 10 describes and illustrates the preparation of forecasted financial statements.

STEP 6: VALUE THE FIRM

Capital market participants most commonly use financial statement analysis to value firms. Financial statements and, specifically, key metrics from the statements such as earnings and operating cash flows play a central role in firm valuation. Thus, the emphasis of this book is to arm the analyst with the knowledge necessary to apply sophisticated and comprehensive valuation models.

To develop reliable estimates of firm value, and therefore to make intelligent buy/sell/hold investment decisions, the analyst must rely on well-reasoned and objective forecasts of the firm's future profitability and risk. Forecasts of future dividends, earnings, and cash flows form the basis for the most frequently used valuation models.

In some cases, analysts prefer to assess firm value using the classical dividends-based approach, which takes the perspective of valuing the firm from the standpoint of the cash

that investors can expect to receive through dividends (or the sale of their shares). In practice, it is also common for analysts to assess firm value using measures of the firm's expected future free cash flows—cash flows that are available to be paid as dividends, after making necessary payments to reinvest in productive assets and meet required debt payments. A relatively new, state-of-the-art approach to firm value involves computing firm value based on the book value of equity and the earnings of the firm that the analyst expects to exceed the firm's cost of capital (similar in logic to "economic value added" computations). In many circumstances, analysts find it necessary or desirable to estimate firm value quickly using valuation rules of thumb, such as price-earnings ratios. Chapters 11 through 14 describe the theory and demonstrate the practical applications of each of these approaches to valuation using PepsiCo.

THE ASSOCIATION BETWEEN EARNINGS AND SHARE PRICES

As discussed earlier in this chapter, performing financial analysis that relies on analysis, forecasting, and valuation of key accounting measures (such as earnings) from a firm's financial statements can be very rewarding. To illustrate the striking linkage between accounting earnings and stock returns, and to foreshadow the potential to generate positive excess returns through analysis and forecasting, consider the results from empirical research by D. Craig Nichols and James Wahlen.[6] They studied the average cumulative market-adjusted returns generated by firms during the twelve months leading up to and including the month in which each firm announced annual earnings numbers. For a sample of 31,923 firm-years between 1988 and 2001, they found that the average firm that announced an increase in earnings (over the prior year's earnings) experienced stock returns that exceeded market average returns by roughly 19.2 percent. On the other hand, the average firm that announced a decrease in earnings experienced stock returns that were roughly 16.4 percent lower than the market average. Their results suggest that merely the sign of the change in earnings is associated with a 35 percent stock return differential in one year, on average. Exhibit 1.14 presents a graph of their results.

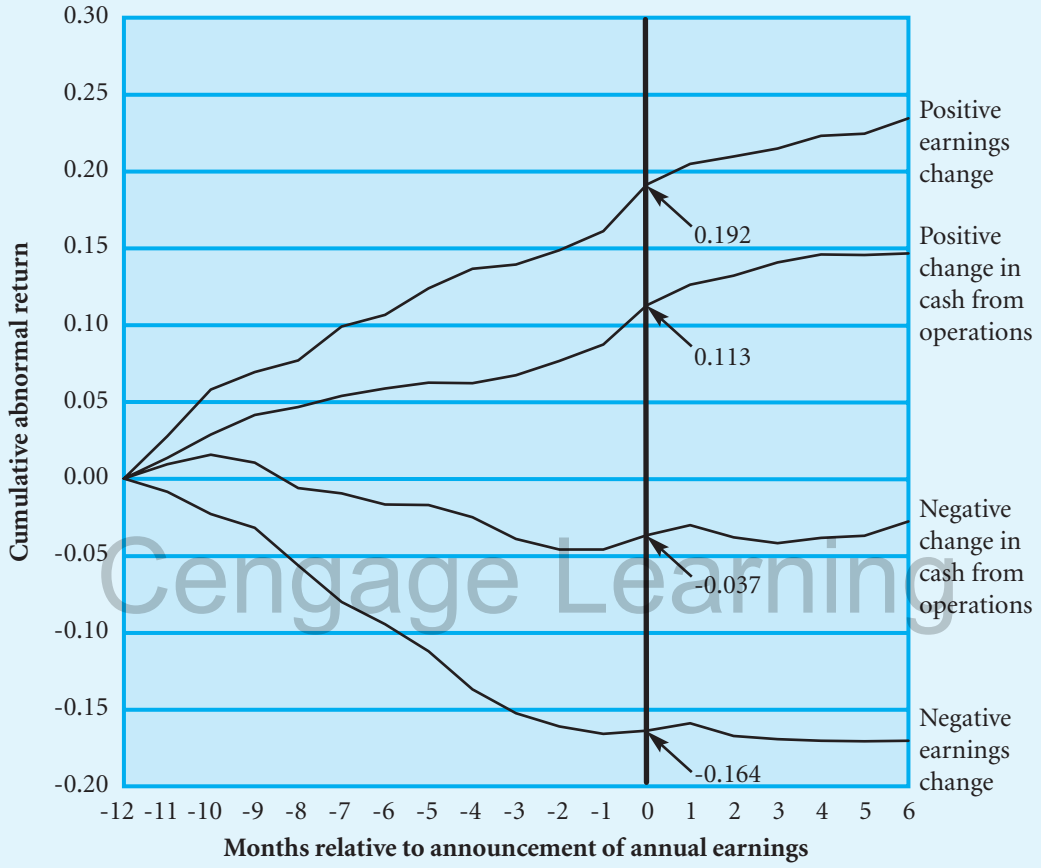
To an analyst, the results of the Nichols-Wahlen study indicate the magnitude of potential returns to be earned by forecasting the changes in earnings one year ahead. Analysts should view the Nichols-Wahlen results as very encouraging and intriguing because they imply that if analysts can forecast earnings changes correctly more often than not, then they should be able to earn some portion of the excess returns documented in this study. To be sure, analysts will not be able to beat the market consistently by 35 percent per year—Nichols and Wahlen's research had the advantage of perfect foresight, which analysts do not have. Using historical earnings data, Nichols and Wahlen knew with certainty which firms would announce earnings increases or decreases one year ahead. Analysts must forecast earnings changes and take positions in stocks on the basis of their earnings expectations.

Note in the graph of the Nichols-Wahlen results in Exhibit 1.14 that their study also examined the relation between changes in cash flows from operations and cumulative market-adjusted stock returns. Using the same firm-years and study period, Nichols and

[6]D. Craig Nichols and James Wahlen, "How Do Earnings Numbers Relate to Stock Returns? A Review of Classic Accounting Research with Updated Evidence," *Accounting Horizons* (December 2004), pp. 263–286. The portion of the Nichols and Wahlen study described here is a replication of path-breaking research in accounting by Ray Ball and Philip Brown, "An Evaluation of Accounting Income Numbers," *Journal of Accounting Research* (Autumn 1968), pp. 159–178.

EXHIBIT 1.14

The Association between Change in Annual Earnings and Cumulative Abnormal Returns



Source: D. Craig Nichols and James Wahlen, "How Do Earnings Numbers Relate to Stock Returns? A Review of Classic Accounting Research with Updated Evidence," *Accounting Horizons*, December 2004, pp. 263–286.

Wahlen documented that firms experiencing positive changes in cash from operations experienced stock returns that beat the market by an average of 11.3 percent, whereas firms experiencing decreases in cash from operations experienced stock returns that were lower than the market by an average of 3.7 percent. These results suggest that the sign of the change in cash from operations is associated with a 15 percent stock return differential in one year, on average. This implies that changes in cash flows are also strongly related to stock returns, but they are not as informative for the capital markets as changes in earnings. This should not be surprising, because changes in cash flow are less indicative of the firm's performance in one period than are changes in earnings. For example, if a firm experiences a negative change in cash from operations, it could be attributable to cash flow difficulties (bad news) or a large investment of cash in growth opportunities

(good news). A negative change in earnings, on the other hand, is almost always bad news. This explains, in part, why analysts, firm managers, the financial press, boards of directors, auditors, and therefore financial statement analysis textbook writers focus so much attention on analyzing and forecasting earnings numbers.

Empirical research in accounting has deepened our understanding of the many dimensions of the role of accounting numbers in the capital market by documenting that share prices react strongly to the magnitude of the change in earnings and the persistence of the change in earnings for future periods, and that financial statement ratios are useful for predicting future earnings changes. We will refer to important research results like these throughout this book.

ROLE OF FINANCIAL STATEMENT ANALYSIS IN AN EFFICIENT CAPITAL MARKET

There are differing views as to the benefits of analyzing a set of financial statements. One view is that stock market prices react efficiently to published information about a firm. That is, market participants react intelligently and quickly to information they receive, so that market prices continually reflect underlying economic values. One implication of an efficient capital market is that financial statement users cannot routinely analyze financial statements to find "undervalued" or "overvalued" securities. The market quickly impounds new information into security prices.

Opposing views include the following:

1. Even if markets are perfectly efficient, someone must do the analysis to bring about the appropriate prices. Financial analysts, with their expertise and access to information about firms, do the analysis quickly and engage in the trading necessary to achieve efficient pricing.
2. Research on capital market efficiency aggregates financial data for individual firms and studies the average reaction of the market to earnings and other financial statement information. A finding that the market is efficient on average does not preclude temporary mispricing of individual firms' shares.[7] A principal task of the financial analyst is to identify mispriced securities of particular firms and to act to bring about appropriate pricing.
3. Research has shown that equity markets are not perfectly efficient. Anomalies include the tendency for market prices to adjust with a lag to new information, systematic underreaction to the information contained in earnings announcements, and the ability to use a combination of financial ratios to detect under- and overpriced securities.[8]
4. Management has incentives related to job security and compensation to report as favorable a picture as possible in the financial statements within the constraints of GAAP. These reports may therefore represent biased indicators of the economic performance and financial position of firms. Financial analysts should adjust these

[7]For an elaboration on the role of financial statement analysis in an efficient capital market and the insights provided by academic research to this process, see Clyde P. Stickney, "The Academic's Approach to Securities Research: Is It Relevant to the Analyst?" *Journal of Financial Statement Analysis* (Summer 1997), pp. 52–60.

[8]For a summary of the issues and related research, see Ray Ball, "The Theory of Stock Market Efficiency: Accomplishments and Limitations," *Journal of Applied Corporate Finance* (Spring 1995), pp. 4–17.

financial statements to remove such biases if market prices are to reflect underlying economic values.

5. Financial statement analysis is valuable in numerous settings outside equity capital markets (for example, credit analysis by a bank to support corporate lending, competitor analysis to identify competitive advantages, and merger and acquisition analysis to identify buyout candidates).

SOURCES OF FINANCIAL STATEMENT INFORMATION

Firms in the United States whose bonds or capital stock trade in public markets typically make available the following information:

1. **Annual Report to Shareholders.** The "glossy" annual report includes balance sheets for the most recent two years and income statements and statements of cash flows for the most recent three years, along with various notes and supporting schedules. The annual report also includes a letter from the chairperson of the board of directors and chief executive officer summarizing the activities of the most recent year. It also includes a discussion and analysis by management of the firm's operating performance, financial position, and liquidity. Firms vary with respect to the information provided in this Management Discussion and Analysis of operations. Some firms, such as PepsiCo as shown in Appendix B, give helpful information about the firm's strategy and reasons for the changes in profitability, financial position, and risk. Other firms merely repeat amounts presented in the financial statements without providing helpful explanations for operating results.
2. **Form 10-K Annual Report.** The Form 10-K annual report filed with the SEC includes the same financial statements and notes as the corporate annual report plus additional supporting schedules required by the SEC. For example, Form 10-K often includes more detailed information than the corporate annual report on changes in the allowance for uncollectible accounts and other valuation accounts. Large firms must file their annual reports with the SEC within 60 days after the end of their annual accounting period.
3. **Form 10-Q Quarterly Report.** The Form 10-Q quarterly report filed with the SEC includes condensed balance sheet and income statement information for the most recent three months, as well as comparative data for earlier quarters.
4. **Prospectus or Registration Statement.** Firms intending to issue new bonds or capital stock file a prospectus with the SEC that describes the offering (amount, intended uses of proceeds). The prospectus includes much of the financial information found in the Form 10-K annual report.
5. **Form 20-F Annual Report.** Non-U.S. firms whose bonds or capital stock trade in capital markets in the United States must file annual reports with the SEC. The Form 20-F annual report is similar to Form 10-K except that it includes schedules to reconcile net income and shareholders' equity from GAAP of the domicile of the non-U.S. firm to GAAP in the United States.

A large number of firms include all or a portion of their annual reports and SEC filings on a web site. For example, PepsiCo provides all of the financial data and analysis provided in Appendices A and B on the firm's web site (www.pepsico.com). In addition, many firms provide additional financial data at these sites that is not published in the annual reports. For example, Gap, Inc., consisting of The Gap, Banana Republic, and Old Navy clothing store chains, provides monthly sales data for each of these chains. It also provides information on the opening and closing of stores.

Firms are required to file reports electronically with the SEC, with these filings for recent years available at the SEC web site (www.sec.gov). Numerous commercial online and CD-ROM services also provide financial statement information (Thomson Analytics, Bloomberg, Standard & Poor's, Moody's, and others).

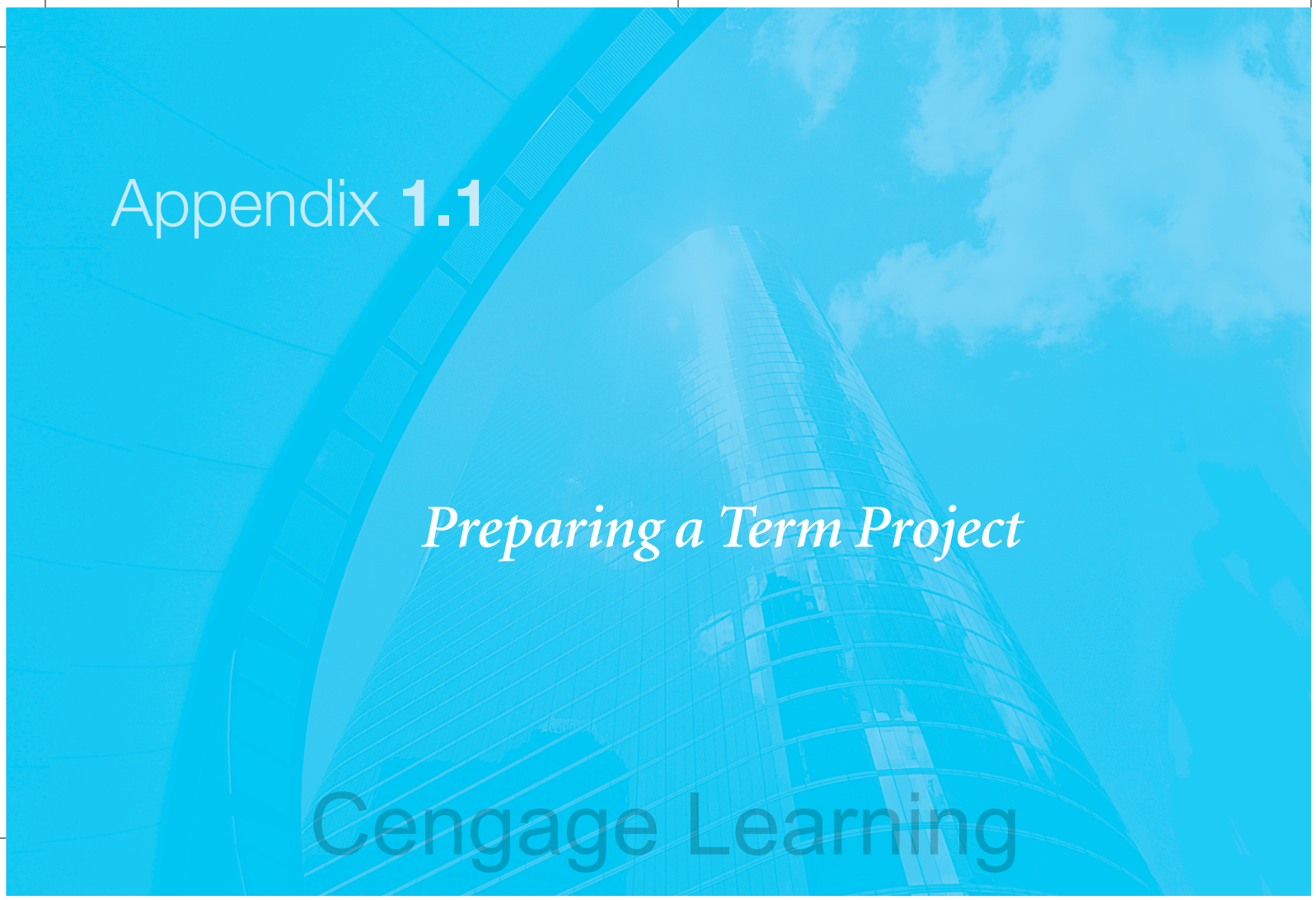
Appendix 1.1 discusses sources of financial information more fully.

SUMMARY

The purpose of this chapter is to provide a broad overview of six interconnected activities related to financial statement analysis:

1. Identify the economic characteristics of the industry in which a firm participates.
2. Identify the corporate strategy that a firm pursues to compete within its industry.
3. Assess the quality of a firm's financial statements and adjust them, if necessary, for items lacking sustainability or comparability.
4. Analyze and interpret the profitability and risk of a firm, assessing how well the firm performed and the strength of its financial position.
5. Prepare forecasted financial statements.
6. Value the particular firm.

You should not expect to fully understand these six steps at this stage of your studies. Future chapters discuss each in greater depth. Chapter 2 discusses the important links between the valuation of assets and liabilities on the balance sheet, and revenues and expenses on the income statement. Chapter 3 details the preparation and interpretation of the statement of cash flows for firms in various industries at various stages in their growth. Chapter 4 describes common financial statement ratios for assessing profitability and illustrates their calculation and interpretation for PepsiCo. Chapter 5 parallels the preceding chapter by describing common financial statement ratios for assessing risk. Chapters 6 through 9 examine GAAP for various financial statement items and address concerns that affect the quality of earnings and financial position. Chapters 10 to 14 shift our focus to valuation. Chapter 10 demonstrates the preparation of forecasted financial statements. Chapters 11 through 14 examine various valuation models based on cash flows, earnings, and amounts for comparable firms. With firm valuation the most frequent objective of financial statement analysis, these chapters represent a fitting culmination to the book.



Appendix 1.1

Preparing a Term Project

Our reading of the course syllabi by various users of previous editions of this book indicates that many instructors require their students to apply the concepts and tools of analysis in this book to the financial statements of one or more companies. This appendix provides helpful hints for you in conducting such a project. Our students find it useful to complete each part of the project as we cover that topic in class. For example, soon after completing Chapter 1, you should select the companies you intend to study and complete the industry economics and company strategy portion of the project. Obtaining financial statement data and performing a first pass on profitability and risk ratios follows coverage of Chapters 4 and 5. Assessments of the quality of the financial statements should coincide with coverage of Chapters 6 to 9. Forecasts of future financial statement amounts follow coverage of Chapter 10. Applying various valuation models must await coverage of Chapters 11 to 14. Based on our experience, we can assure you that if you follow this approach, your learning experience in a project like this will be much richer and rewarding than it will be if you wait until the last few weeks of the course to do the major work on the project. For this reason, we have our students submit progress reports throughout the term. These progress reports both help our students stay on schedule and permit us to provide suggestions that might assist them going forward.

SELECTING COMPANIES FOR THE TERM PROJECT

Some instructors ask their students to analyze a single company over time (a time-series analysis), while other instructors ask students to compare two or more companies over time (a cross-section analysis). We have found that comparing companies in the same industry provides the most interesting insights.

When selecting companies to analyze, select an industry and firms in which you have an interest. You will likely spend considerable time on the project. Selecting firms of interest enhances motivation. Some of our students select firms for which they hope or expect to work. The in-depth analysis of the firm often enhances the job interview and early work experience once hired. Our students find that selecting firms with somewhat different strategies usually provides better insights than selecting firms with similar strategies. Some of our students' richest term projects involve analyzing firms in the same industry but headquartered in different countries. However, such projects involve additional work to learn GAAP, as well as institutional and cultural differences in each country that might affect interpretation of the financial analyses.

Various online databases list firms within the United States and worldwide in various industries. Your library may or may not subscribe to all the databases discussed in this appendix. Packaged with this book is access to the Business & Company Resource Center. This site provides information about particular industries and particular companies. Information provided includes company overviews and histories, newspaper and magazine articles, financial data, and investment reports. A similar online information service is OneSource, published by Global Business Browser (www.onesource.com).

UNDERSTANDING INDUSTRY ECONOMICS AND COMPANY STRATEGIES

Perhaps the best place to start understanding the economics of an industry and the particular strategy that a firm has selected to compete in the industry is the Form 10-K report the firm filed with the SEC (www.sec.gov). The first section of Form 10-K is a narrative entitled "Business." This section usually describes the firm's principal businesses and provides information about suppliers, competitors, regulation, and other items.

Reading this section of Form 10-K for the other firms selected for study will usually turn up sufficient information so that you can summarize the economics of the industry using either a value chain, Porter's five forces framework, or the economics attributes framework discussed in the chapter. These sources will not likely set forth the economics precisely to fit any of these industry economics frameworks, so some interpretation and synthesis on your part will be necessary.

The reading of the Business section of the Form 10-K report should also provide information on the strategy of each firm studied. We find it useful to search the notes to the financial statements to find the segment data by products or services and by geographical location. We convert the reported numbers to mix percentages, as we did for PepsiCo in Exhibit 1.4, to obtain an overview of the firm's principal involvements.

Another source for industry information is Standard & Poor's Industry Surveys. These surveys describe the most important factors affecting the industry, the key firms in the industry, and key financial ratios for each firm. The Business & Company Resource Center and OneSource resources, described previously, also provide helpful information about the industry.

ASSESSING THE QUALITY OF THE FINANCIAL STATEMENTS

Two steps are needed here: (1) creating a data file with the amounts from the financial statements, and (2) adjusting the reported financial statement amounts to improve the quality of the financial statement data.

Creating a Data File

One initial choice in creating a data file is whether to use the accounts and amounts provided by the firm in its Form 10-K or annual report to shareholders or to use amounts from various online sources or databases that format the amounts into a standardized template. One advantage of following the first approach is that you rely on the primary source of the financial statements, not a secondary source for which you may not know all of the reclassifications and adjustments made to conform the reported amounts to the standardized template. Another advantage of following the first approach is that the financial statement data will be classified into accounts consistent with the notes to the financial statements, the main source of information for assessing the quality of the reported amounts, a topic discussed shortly. The principal advantage of using amounts in a standardized template is that the financial statement amounts are reasonably comparable across firms.

The next decision to be made is whether to input the financial statement data into FSAP, a financial statement analysis package that accompanies this text, or to create a new spreadsheet file. The principal advantages of FSAP are that it provides spreadsheets with embedded formulas for the various profitability and risk ratios, provides a template to prepare forecasted financial statements using the previously reported actual amounts as a base, and then inputs the forecasted amounts into several valuation models to arrive at equity values. (Appendix C illustrates the use of FSAP to analyze and value PepsiCo and Appendix D contains a user manual for FSAP, explaining how to create a data file.) The disadvantage of using FSAP from a learning perspective is that much of the work is done for you. The advantage of creating a new spreadsheet file is that you must program the spreadsheets to compute the financial ratios, prepare forecasted financial statements, and

apply the various valuation models. To enhance learning, many instructors prefer that their students program the spreadsheet themselves.

Downloading financial statement data from online sources means that the data will already be in a standard format. You can program the spreadsheet for this format and then use it for all firms analyzed. Downloading financial statement data from a firm's Form 10-K requires that at least initially the spreadsheet use the firm's specific categories and grouping of accounts. It is unlikely that the other firms analyzed will use precisely the same accounts. Thus, you then must either transform the reported amounts to a standard format or program each firm's spreadsheet to conform to its specific accounts and categories.

It is a good idea to program various mathematical checks into the spreadsheet. For example, the sum of the individual assets must equal the sum of the individual liability and shareholders' equity accounts. The net of individual revenues and expenses must equal net income. The cash flow from operating, investing, and financing activities must equal the change in cash. The latter should agree with the change in cash on the balance sheet from the beginning to the end of the year.

One issue you must face is how many years of financial statement data to obtain. We recommend using at least three years of income statements and statements of cash flows and four years of balance sheets (although this many years of data may not be available for very young firms or for initial public offering firms). The extra year for the balance sheets results from the need for average amounts on certain accounts on the balance sheet in order to calculate particular financial ratios for a year. In most cases, the average amount is the sum of the amounts on the balance sheet at the beginning and end of the year divided by 2. FSAP permits the inputting of five years of income statement and cash flow data and six years of balance sheet data. The longer historical time frame is useful when deciding on appropriate growth rates for forecasting financial statements, particularly if the recent past is unusual for some reason (for example, because of a recession).

Another issue you must face is whether to use the originally reported amounts for each year or to use amounts as retroactively restated for discontinued operations, acquisitions or divestitures, or other factors. The advantage of using restated numbers is that the financial statements report amounts more like those that one might expect going forward. The disadvantage is that firms seldom provide restated data beyond the three income statements and statements of cash flows and two balance sheets commonly found in annual reports. Thus, using restated data is not likely to yield financial statements that are fully consistent over time. Chapter 6 discusses this issue more fully.

Assessing the Quality of the Reported Amounts

One of the most important steps in financial statement analysis is to assess the quality of the reported amounts and make appropriate adjustments before proceeding to the analysis of profitability and risk. The saying "garbage in, garbage out" applies with particular force with respect to financial statements. To assess quality, it is imperative to read the financial statements and notes. Chapters 6 to 9 describe the most important factors to look for in this quality assessment. Material nonrecurring or unusual income items are candidates for adjustment. Significant off-balance sheet assets or liabilities are also candidates. Some adjustments may be needed to increase the comparability of the financial statement amounts for each of the firms analyzed in the term project. It is helpful to keep a log of adjustments made to refer to later when interpreting profitability and risk ratios and forecasting future financial statements.

ANALYZING PROFITABILITY AND RISK

If you use FSAP to create data files, then FSAP automatically calculates the profitability and risk ratios discussed in Chapters 4 and 5. If you create your own spreadsheet file for the financial statement data, you will want to include a separate spreadsheet within that file to compute the financial statement ratios. This spreadsheet should contain the formulas for the financial ratios, referring back to the spreadsheets with the financial statement data to obtain the amounts for the numerator and denominator of each ratio. If you change any of the amounts in the financial statements portion of the spreadsheet later on in the project (for example, from making adjustments to improve the quality of the data), then the financial ratios will automatically update.

When analyzing profitability and risk using the financial statement ratios, we find it helpful to do a time-series analysis for each firm first, and then do cross-section comparisons across firms. As a first pass, look for financial ratios that have changed significantly over time or differ significantly across firms. Then relate the changes and differences to the economics of the industry and strategies of the firms. You will find it helpful to read the Management Discussion and Analysis section of the annual report to shareholders or the Form 10-K to find explanations for the time-series changes. A sequence that we have found useful is as follows:

- Time-series analysis of profitability for each firm using (a) common-size and percentage change financial statements, (b) rate of return on assets and its components, and (c) rate of return on common shareholders' equity and its components.
- Cross-sectional profitability analysis of profitability for all firms using (a) common-size and percentage change financial statements, (b) rate of return on assets and its components, and (c) rate of return on common shareholders' equity and its components.
- Time-series and cross-sectional comparisons of short-term liquidity risk.
- Time-series and cross-sectional comparisons of long-term liquidity risk.

PREPARING FORECASTED FINANCIAL STATEMENTS

Having analyzed the profitability and risk of each firm in the recent past, you are now ready to project the financial statement amounts into the future. As Chapter 10 discusses, you will want to identify any important factors that will likely differ in the future, such as a major divestiture or acquisition, changes in the economic or regulatory environment, or a change in business strategy.

Spreadsheets are particularly powerful tools for preparing forecasted financial statements. It is desirable to link the forecasted financial statements with the financial statement data and related ratios from the recent past. FSAP does this automatically. If you program your own spreadsheet file with the financial statement data, you can simply program additional spreadsheets within this file for the forecasted amounts. We suggest that you build in the same kinds of mathematical data checks into the forecasted amounts that you included for the reported amounts. We also find it useful to include a spreadsheet that computes the same financial ratios for the forecasted amounts as it does for the reported amounts. You can then study the financial ratios to see if the assumptions underlying the forecasted amounts make sense relative to the past and to expected changes going forward.

VALUE THE FIRMS

Chapters 11 to 14 describe and illustrate various models to value firms, including the following:

- Present value of projected dividends (Chapter 11).
- Present value of expected free cash flows to the firm (Chapter 12).
- Residual income valuation (Chapter 13).
- Market-based comparables (Chapter 14).

The first three of these valuation models rely on data from the forecasted financial statements. Your instructor may ask you to follow only one or more than one of these approaches in your valuations.

QUESTIONS, EXERCISES, PROBLEMS, AND CASES

Questions and Exercises

1.1 VALUE CHAIN ANALYSIS APPLIED TO THE TIMBER AND TIMBER PRODUCTS INDUSTRY. Create a value chain for the timber and timber products industry, beginning with the growing of timber and ending with the retailing of timber and paper products. Describe each link in the value chain briefly and list the name of one U.S. company involved in each link. (*Hint: Access Thomson/Gale's Business & Company Resource Center, Global Business Browser, or Standard & Poor's Industry Surveys to obtain the needed information.*)

1.2 PORTER'S FIVE FORCES APPLIED TO THE AIR COURIER INDUSTRY. Apply Porter's five forces to the air courier industry. Industry participants include such firms as FedEx, United Parcel Service, and DHL. (*Hint: Access Thomson/Gale's Business & Company Resource Center, Global Business Browser, or Standard & Poor's Industry Surveys to obtain the needed information.*)

1.3 ECONOMIC ATTRIBUTES FRAMEWORK APPLIED TO THE SPECIALTY RETAILING APPAREL INDUSTRY. Apply the economic attributes framework discussed in the chapter to the specialty retailing apparel industry, which includes such firms as The Gap, Limited Brands, and Abercrombie & Fitch. (*Hint: Access Thomson/Gale's Business & Company Resource Center, Global Business Browser, or Standard & Poor's Industry Surveys to obtain the needed information.*)

1.4 IDENTIFICATION OF COMMODITY BUSINESSES. A recent article of *Fortune* magazine listed the following firms among the top ten most admired companies in the United States: Dell, Southwest Airlines, Microsoft, and Johnson & Johnson. Access the web sites of these four companies or read the Business section of their Form 10-K reports (www.sec.gov) and describe whether you would view their products or services as commodities. Be sure to explain your reasoning.

1.5 IDENTIFICATION OF COMPANY STRATEGIES. Refer to the web sites and the Form 10-K reports of Home Depot (www.homedepot.com) and Lowe's Companies (www.lowes.com). Compare and contrast their business strategies.

1.6 RESEARCHING THE FASB WEB SITE. Go to the web site of the Financial Accounting Standards Board (www.fasb.org). Identify the most recently issued financial reporting standard and summarize briefly (in one paragraph) its principal provisions. Also, search under Project Activities to identify the reporting issue with the most recent update. Describe the issue briefly and the nature of the action taken by the FASB.

1.7 RESEARCHING THE IASB WEB SITE. Go to the web site for the International Accounting Standards Board (www.iasb.org). Search for the International Financial Reporting Standards (IFRS) summaries. Identify the most recently issued international financial reporting standard and summarize briefly (in one paragraph) its principal provisions.

1.8 EFFECT OF INDUSTRY ECONOMICS ON BALANCE SHEET. Access the web sites of American Airlines (www.aa.com), Intel (www.intel.com) and Disney (www.disney.com) and study the business involvements of each firm. Examine the financial ratios below and indicate which firms are likely to be American Airlines, Intel, and Disney. Explain your reasoning.

	Firm A	Firm B	Firm C
Property, Plant and Equipment/Assets	30.6%	32.8%	66.5%
Long-Term Debt/Assets	17.4%	1.8%	47.0%

1.9 EFFECT OF BUSINESS STRATEGY ON COMMON-SIZE INCOME STATEMENT. Access the web sites of Apple Computer (www.apple.com) and Dell (www.dell.com) and study the strategies of each firm. Examine the following common-size income statements and indicate which firm is likely to be Apple Computer and which is likely to be Dell. Explain your reasoning. Indicate any percentages that seem inconsistent with their strategies.

	Firm A	Firm B
Sales	100.0%	100.0%
Cost of Goods Sold	(81.7)	(72.7)
Selling and Administrative	(8.7)	(17.4)
Research and Development	(.9)	(5.9)
Income Taxes	(2.8)	(1.3)
All Other Items	.3	.6
Net Income	6.2%	3.3%

1.10 EFFECT OF BUSINESS STRATEGY ON COMMON-SIZE INCOME STATEMENT. Access the web sites of Dollar General (www.dollargeneral.com) and Federated Department Stores (www.federated-fds.com) and study the strategies of each firm. Examine the following common-size income statements and indicate which firm is likely to be Dollar General and which is likely to be Federated Department Stores. Explain your reasoning. Indicate any percentages that seem inconsistent with their strategies.

	Firm A	Firm B
Sales	100.0%	100.0%
Cost of Goods Sold	(70.6)	(59.5)
Selling and Administrative	(21.8)	(31.6)
Income Taxes	(2.6)	(2.7)
All Other Items	(.6)	(1.8)
Net Income	4.4%	4.4%

Problems and Cases

1.11 EFFECT OF INDUSTRY CHARACTERISTICS ON FINANCIAL STATEMENT RELATIONSHIPS. Effective financial statement analysis requires an understanding of a firm's economic characteristics. The relations between various financial statement items provide evidence of many of these economic characteristics. Exhibit 1.15 presents common-size condensed balance sheets and income statements for twelve firms in different industries. These common-size balance sheets and income statements express various items as a percentage of operating revenues (that is, the statement divides all amounts by operating revenues for the year). Exhibit 1.15 also shows the ratio of cash flow from operations to capital expenditures. A dash for a particular financial statement item does not necessarily mean that the amount is zero. It merely indicates that the amount is not sufficiently large for the firm to disclose it. The twelve companies and a brief description of their activities follow.

1. Amazon.com: Operates web sites to sell a wide variety of products online. The firm operated at a net loss in all years prior to that reported in Exhibit 1.15.
2. Anheuser-Busch: Manufactures and distributes beer and operates theme parks.
3. Carnival Corporation: Owns and operates cruise ships.
4. Cisco Systems: Manufacturers and sells computer networking and communications products. Cisco Systems has made minority ownership investments in other networking and communications firms in recent years.
5. Citigroup: Offers a wide range of financial services in the commercial banking, insurance, and securities business. Operating expenses represent the compensation of employees.
6. eBay: Operates an online trading platform for buyers and sellers to make purchases and sales of a variety of goods. The firm has grown in part by acquiring other companies to enhance or support its online trading platform.
7. Harrah's Entertainment: Owns and operates hotels and casinos.
8. Johnson & Johnson: Develops, manufactures, and sells pharmaceutical products, medical equipment, and branded over-the-counter consumer personal care products.
9. Kellogg: Manufactures and distributes cereal and other food products. The firm acquired other branded food companies in recent years.
10. Merrill Lynch: Offers brokerage and investment banking services. Operating expenses represent the compensation of employees.
11. Verizon Communications: Maintains a telecommunications network and offers telecommunications services. Operating expenses represent the compensation of employees.
12. Yum Brands: Operates chains of restaurants.

EXHIBIT 1.15

Common-Size Financial Statement Data for Firms in 12 Industries (Problem 1.11)

	(1)	(2)	(3)	(4)
Balance Sheet at End of Year				
Cash and Marketable Securities	25.7%	1.3%	1.5%	4.3%
Receivables	—	2.1	4.7	8.1
Inventories	6.9	0.8	4.6	7.1
Property, Plant, and Equipment, at cost	6.2	67.3	116.6	47.1
Accumulated Depreciation	(2.6)	(29.1)	(57.4)	(18.8)
Net	3.6	38.2	59.2	28.3
Intangibles	2.0	10.0	8.0	53.2
Other Assets	8.7	10.8	30.3	11.3
Total Assets	46.9%	63.2%	108.3%	112.3%
Current Liabilities	23.4%	15.3%	13.2%	29.6%
Long-Term Debt	26.7	19.2	55.4	40.5
Other Noncurrent Liabilities	0.1	11.0	21.8	18.7
Shareholders' Equity	(3.3)	17.7	17.9	23.5
Total Equities	46.9%	63.2%	108.3%	112.3%
Income Statement for Year				
Operating Revenues	100.0%	100.0%	100.0%	100.0%
Cost of Sales (excluding depreciation) or Operating Expenses[a]	(76.0)	(71.6)	(55.3)	(52.3)
Depreciation and Amortization	(1.1)	(5.0)	(6.2)	(4.3)
Selling and Administrative	(16.6)	(11.6)	(15.9)	(26.0)
Research and Development	—	—	—	—
Interest	(1.5)	(3.1)	(2.7)	(3.2)
Income Taxes	3.4	(3.2)	(7.8)	(4.9)
All Other Items, net	0.3	2.7	2.9	—
Net Income	8.5%	8.2%	15.0%	9.3%
Cash Flow from Operations/ Capital Expenditures	6.4	1.8	2.7	4.4

[a]See the problem narrative for items included in operating expenses.

Required

Use whatever clues you can to match the companies in Exhibit 1.15 with the firms listed here.

1.12 EFFECT OF INDUSTRY CHARACTERISTICS ON FINANCIAL STATEMENT RELATIONSHIPS. Effective financial statement analysis requires an understanding of a firm's economic characteristics. The relations between various finan-

EXHIBIT 1.15

continued

(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
27.2%	39.3%	10.8%	6.4%	66.3%	6.8%	721.2%	1,507.2%
14.4	8.3	2.9	13.7	11.1	4.2	496.5	385.0
7.9	5.5	0.6	2.2	—	2.5	—	—
39.5	34.7	143.3	260.2	34.7	248.6	46.2	23.9
(17.4)	(19.7)	(39.0)	(156.3)	(13.0)	(34.6)	(18.5)	(16.2)
22.1	15.0	104.3	103.9	21.7	214.0	27.7	7.7
25.0	20.5	48.7	66.6	93.9	47.6	43.7	19.0
16.0	72.9	21.5	40.0	51.3	9.0	81.6	77.1
112.6%	161.5%	188.8%	232.8%	244.3%	284.1%	1,370.7%	1,996.0%
29.4%	39.5%	16.6%	32.5%	33.2%	51.8%	1,017.8%	1,531.1%
5.4	—	113.3	50.0	—	64.7	192.0	368.3
10.6	4.4	13.4	62.5	5.3	5.6	60.0	—
67.2	117.6	45.5	87.8	205.8	162.0	100.9	96.6
112.6%	161.5%	188.8%	232.8%	244.3%	284.1%	1,370.7%	1,996.0%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(26.3)	(28.3)	(52.9)	(32.5)	(16.9)	(56.1)	(31.2)	(32.6)
(4.5)	(6.5)	(7.4)	(19.5)	(7.8)	(8.3)	(1.9)	(1.6)
(31.1)	(22.1)	(22.5)	(29.6)	(35.6)	(13.2)	(24.2)	(15.7)
(11.0)	(14.5)	—	—	(7.4)	—	—	—
(0.4)	—	(6.0)	(3.3)	(0.3)	(2.9)	(20.4)	(32.2)
(9.1)	(9.2)	(4.2)	(4.0)	(10.5)	(0.5)	(6.4)	(4.3)
0.4	3.1	0.2	(0.9)	2.3	0.1	(0.2)	0.1
18.0%	22.5%	7.2%	10.2%	23.8%	19.1%	15.7%	13.7%
5.1	11.6	1.2	1.6	4.4	0.9	18.9	23.2

cial statement items provide evidence of many of these economic characteristics. Exhibit 1.16 presents common-size condensed balance sheets and income statements for 12 firms in different industries. These common-size balance sheets and income statements express various items as a percentage of operating revenues (that is, the statement divides all amounts by operating revenues for the year). Exhibit 1.16 also shows the ratio of cash flow from operations to capital expenditures. A dash for a particular financial statement item does not necessarily mean that the amount is zero. It merely indicates that the amount is

EXHIBIT 1.16

Common-Size Financial Statement Data for Firms in 12 Industries (Problem 1.12)

	(1)	(2)	(3)	(4)
Balance Sheet at End of Year				
Cash and Marketable Securities	1.8%	10.6%	30.5%	16.2%
Receivables	14.6	1.4	0.4	16.5
Inventories	—	10.6	11.8	8.8
Property, Plant, and Equipment, at cost	7.2	14.6	39.6	17.3
Accumulated Depreciation	(3.6)	(5.5)	(13.5)	(9.0)
Net	3.6	9.1	26.1	8.3
Intangibles	1.9	2.1	—	24.9
Other Assets	3.1	1.4	1.4	20.6
Total Assets	25.0%	35.2%	70.2%	95.3%
Current Liabilities	9.7%	18.3%	16.4%	35.8%
Long-Term Debt	—	2.0	—	5.8
Other Noncurrent Liabilities	2.2	1.0	2.8	6.7
Shareholders' Equity	13.1	13.9	51.0	47.0
Total Equities	25.0%	35.2%	70.2%	95.3%
Income Statement for Year				
Operating Revenues	100.0%	100.0%	100.0%	100.0%
Cost of Sales (excluding depreciation) or Operating Expenses[a]	(84.0)	(73.2)	(55.2)	(75.3)
Depreciation and Amortization	(0.9)	(1.6)	(3.9)	(3.0)
Selling and Administrative	(14.4)	(19.9)	(21.5)	(11.8)
Research and Development	—	—	—	(4.4)
Interest	—	—	—	(0.2)
Income Taxes	(0.3)	(2.0)	(7.6)	(0.9)
All Other Items, net	—	—	0.2	—
Net Income	0.4%	3.3%	12.0%	4.4%
Cash Flow from Operations/ Capital Expenditures	1.7	2.6	2.8	2.4

[a]See the problem narrative for items included in operating expenses.

not sufficiently large for the firm to disclose it. The twelve companies and a brief description of their activities follow.

1. Abercrombie & Fitch: Sells retail apparel primarily through stores to the fashion-conscious adult and has established itself as a trendy, popular player in the specialty apparel industry.
2. Allstate Insurance: Sells property and casualty insurance, primarily on buildings and automobiles. Operating revenues include insurance premiums collected or

EXHIBIT 1.16

continued

(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
11.5%	12.9%	7.2%	17.8%	30.9%	22.2%	24.9%	321.8%
7.9	17.9	3.9	50.4	15.8	203.9	28.1	13.6
8.6	16.4	0.8	5.5	8.3	—	2.7	—
49.2	87.7	160.0	15.9	99.4	1.3	275.3	4.4
(21.8)	(50.3)	(51.4)	(9.3)	(35.3)	(0.3)	(103.9)	(1.1)
27.4	37.4	108.6	6.6	64.1	1.0	171.4	3.3
46.5	18.0	9.6	66.9	7.7	18.6	—	2.9
9.1	27.7	15.9	17.0	58.8	7.6	82.5	75.7
111.0%	130.3%	146.0%	164.2%	185.6%	253.3%	309.6%	417.3%
43.1%	29.0%	18.5%	89.7%	51.2%	17.6%	61.2%	295.7%
24.4	20.3	43.8	24.2	20.5	192.9	117.0	15.8
9.9	35.3	9.2	6.3	28.0	9.8	49.0	41.8
33.6	45.7	74.5	43.8	85.9	33.0	82.4	64.0
111.0%	130.3%	146.0%	164.2%	185.6%	253.3%	309.6%	417.3%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(46.7)	(71.1)	(63.4)	(70.2)	(19.1)	(27.1)	(40.6)	(66.6)
(3.4)	(4.9)	(6.3)	(1.8)	(6.3)	(3.0)	(13.5)	—
(30.8)	(10.9)	(11.7)	(15.5)	(28.3)	(32.0)	(25.6)	(22.0)
(1.2)	(4.9)	—	—	(17.5)	—	—	—
—	(1.3)	(1.9)	(0.5)	—	(19.6)	(6.0)	—
(5.6)	(1.5)	(4.8)	(4.1)	(9.4)	(6.2)	(7.6)	(2.6)
0.3	1.1	0.1	(0.5)	5.9	—	0.5	(0.3)
12.6%	6.5%	12.0%	7.4%	25.3%	12.1%	7.2%	8.5%
4.6	2.6	2.8	8.1	5.1	72.5	1.3	133.7

due from customers and revenues earned from investments made with cash received from customers prior to the time that Allstate pays customers' claims. Operating expenses include amounts actually paid or expected to be paid in the future on insurance coverage outstanding during the year.

3. Best Buy: Operates a chain of retail stores selling consumer electronic and entertainment equipment at competitively low prices.
4. E. I. du Pont de Nemours: Manufactures chemical and electronics products.

5. Hewlett-Packard: Develops, manufactures, and sells computer hardware. The firm outsources many of its computer components.
6. HSBC Finance: Lends money to consumers for periods ranging from several months to several years. Operating expenses represent estimated uncollectible loans.
7. Kelly Services: Provides temporary office services to businesses and other firms. Operating revenues represent amounts billed to customers for temporary help services and operating expenses include amounts paid to the temporary help employees of Kelly.
8. McDonald's: Operates fast-food restaurants worldwide. A large percentage of McDonald's restaurants are owned and operated by franchisees. McDonald's frequently owns the restaurant buildings of franchisees and leases them to franchisees under long-term leases.
9. Merck: A leading research-driven pharmaceutical products and services company. Merck discovers, develops, manufactures, and markets a broad range of products (primarily ethical drugs) to improve human and animal health, directly and through its joint ventures.
10. Omnicom Group: Creates advertising copy for clients and is the largest marketing services firm in the world. Omnicom purchases advertising time and space from various media and sells it to clients. Operating revenues represent the commission or fee earned by Omnicom for advertising copy created and media time and space sold. Operating expenses include compensation paid to employees. Omnicom acquired a large number of marketing services firms in recent years.
11. Pacific Gas & Electric: Generates and sells power to customers in the western United States.
12. Procter & Gamble: Manufactures and markets a broad line of branded consumer products.

Required

Use whatever clues you can to match the companies in Exhibit 1.16 with the firms listed here.

1.13 EFFECT OF INDUSTRY CHARACTERISTICS ON FINANCIAL STATEMENT RELATIONSHIPS—GLOBAL PERSPECTIVE. Effective financial statement analysis requires an understanding of a firm's economic characteristics. The relations between various financial statement items provide evidence of many of these economic characteristics. Exhibit 1.17 presents common-size condensed balance sheets and income statements for twelve firms in different industries. These common-size balance sheets and income statements express various items as a percentage of operating revenues (that is, the statement divides all amounts by operating revenues for the year). A dash for a particular financial statement item does not necessarily mean that the amount is zero. It merely indicates that the amount is not sufficiently large for the firm to disclose it. The twelve companies, the country of their headquarters, and a brief description of their activities follow.

1. Accor (France): World's largest hotel group, operating hotels under the names of Sofitel, Novotel, Motel 6, and others. Accor has grown in recent years by acquiring established hotel chains.

2. Arbed-Acier (Luxembourg): Offers flat-rolled steel products, primarily to the European automobile industry.
3. Carrefour (France): Operates grocery supermarkets and hypermarkets in Europe, Latin America, and Asia.
4. Deutsche Telekom (Germany): Europe's largest provider of wired and wireless telecommunication services. The telecommunications industry has experienced increased deregulation in recent years.
5. Fortis (Netherlands): Offers both insurance and banking services. Operating revenues include insurance premiums received, investment income, and interest revenue on loans. Operating expenses include amounts actually paid or amounts it expects to pay in the future on insurance coverage outstanding during the year.
6. Interpublic Group (U.S.): Creates advertising copy for clients. Interpublic purchases advertising time and space from various media and sells it to clients. Operating revenues represent the commission or fee earned by Interpublic for advertising copy created and media time and space sold. Operating expenses include compensation paid to employees. Interpublic acquired other marketing services firms in recent years.
7. Marks & Spencer (U.K.): Operates department stores in England and other retail stores in Europe and the United States. Offers its own credit card for customers' purchases.
8. Nestlé (Switzerland): World's largest food processor, offering prepared foods, coffees, milk-based products, and mineral waters.
9. Roche Holding (Switzerland): Creates, manufactures, and distributes a wide variety of prescription drugs.
10. Sun Microsystems (U.S.): Designs, manufactures, and sells workstations and servers used to maintain integrated computer networks. Sun outsources the manufacture of many of its computer components.
11. Tokyo Electric Power (Japan): Provides electric power services, primarily to the Tokyo community. It maintains almost a monopoly in its service area.
12. Toyota Motor (Japan): Manufactures automobiles and offers financing services to its customers.

Required

Use whatever clues you can to match the companies in Exhibit 1.17 with the firms listed here.

1.14 VALUE CHAIN ANALYSIS AND FINANCIAL STATEMENT RELATIONSHIPS. Exhibit 1.18 presents common-size income statements and balance sheets for seven firms that operate at various stages in the value chain for the pharmaceutical industry. These common-size statements express all amounts as a percentage of sales revenue. Exhibit 1.18 also shows the cash flow from operations to capital expenditures ratios for each firm. A dash for a particular financial statement item does not necessarily mean that the amount is zero. It merely indicates that the amount is not sufficiently large for the firm to disclose it. The seven companies and a brief description of their activities follow.

1. Wyeth: Engages in the development, manufacture, and sale of ethical drugs (that is, drugs requiring a prescription). The drugs of Wyeth primarily represent mixtures

EXHIBIT 1.17

Common-Size Financial Statement Data for Firms in 12 Industries (Problem 1.13)

	(1)	(2)	(3)	(4)
Balance Sheet at End of Year				
Cash and Marketable Securities	4.7%	16.4%	8.9%	8.4%
Receivables	8.5	15.9	16.5	27.6
Inventories	9.9	2.8	9.9	5.8
Property, Plant, and Equipment, at cost	40.8	20.9	59.0	69.6
Accumulated Depreciation	(15.0)	(9.1)	(33.2)	(17.8)
Net	25.8	11.8	25.8	51.8
Intercorporate Investments	4.0	14.3	3.0	.6
Other Assets	15.0	10.9	11.7	3.6
Total Assets	67.9%	72.1%	75.8%	97.8%
Current Liabilities	37.3%	25.5%	29.7%	26.4%
Long-Term Debt	12.0	6.1	6.6	9.1
Other Noncurrent Liabilities	2.1	1.8	5.9	2.3
Shareholders' Equity	16.5	38.7	33.6	60.0
Total Equities	67.9%	72.1%	75.8%	97.8%
Income Statement for Year				
Operating Revenues	100.0%	100.0%	100.0%	100.0%
Other Revenues	1.1	2.7	1.0	.2
Cost of Goods Sold (excluding depreciation) or Operating Expenses[a]	(87.8)	(45.2)	(44.5)	(64.6)
Depreciation and Amortization	(3.0)	(4.9)	(4.1)	(3.2)
Selling and Administrative	(6.3)	(24.8)	(38.9)	(24.3)
Interest	(1.4)	(.4)	(2.0)	(1.3)
Research and Development	—	(9.8)	(1.3)	—
Income Taxes	(1.3)	(5.8)	(3.1)	(2.4)
All Other Items, net	.8	—	(.8)	(.3)
Total Expenses	99.0%	90.9%	94.7%	96.1%
Net Income	2.1%	11.8%	6.3%	4.1%

[a]See the problem narrative for items included in operating expenses.

of chemical compounds. Ethical-drug companies must obtain approval of new drugs from the Food and Drug Administration (FDA). Patents protect such drugs from competition until either other drug companies develop more effective substitutes or the patent expires.

2. Amgen: Engages in the development, manufacture, and sale of drugs based on biotechnology research. Biotechnology drugs must obtain approval from the FDA and enjoy patent protection similar to those for chemical-based drugs. The

EXHIBIT 1.17

continued

(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
16.7%	7.4%	16.1%	21.3%	72.0%	8.3%	1.4%	338.8%
35.9	17.7	81.1	29.6	24.0	10.5	5.9	533.4
6.4	25.7	—	1.3	20.0	2.9	—	—
88.3	130.9	23.0	110.3	83.3	278.9	535.4	15.3
(50.5)	(67.7)	(11.8)	(35.5)	(35.2)	(112.5)	(284.9)	(12.9)
37.8	63.2	11.2	74.8	48.1	166.4	250.5	2.4
18.8	10.3	1.3	10.7	7.7	22.4	16.9	41.9
7.1	1.9	63.5	42.1	69.1	56.3	5.4	61.9
122.7%	126.2%	173.2%	179.8%	240.9%	266.8%	280.1%	978.4%
42.7%	34.5%	106.0%	65.1%	48.3%	42.6%	51.3%	820.8%
22.2	23.3	22.7	49.6	56.4	95.8	167.7	76.9
4.2	17.2	10.6	10.9	24.5	27.8	24.7	42.2
53.6	51.2	33.9	54.2	111.7	100.6	36.4	38.5
122.7%	126.2%	173.2%	179.8%	240.9%	266.8%	280.1%	978.4%
100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
.7	2.3	1.9	.3	13.8	.7	—	—
(68.0)	(81.0)	(55.3)	(74.5)	(27.2)	(45.0)	(57.3)	(32.6)
(5.9)	(5.3)	(2.0)	(7.1)	(9.9)	(23.9)	(19.9)	—
(16.4)	(13.6)	(27.8)	(8.1)	(40.0)	(15.2)	(7.3)	(22.5)
(.4)	(3.5)	(1.9)	(3.0)	(5.2)	(8.6)	(8.6)	(35.4)
(3.7)	—	—	—	(13.8)	—	—	—
(2.5)	(.3)	(5.9)	(3.7)	(4.4)	(3.9)	(2.8)	(2.2)
(.6)	2.1	(.8)	.6	—	(.6)	—	(1.7)
97.5%	101.6%	93.7%	95.8%	100.5%	97.2%	95.9%	94.4%
3.2%	.7%	8.2%	4.5%	13.3%	3.5%	4.1%	5.6%

biotechnology segment is less mature than the ethical-drug industry, with relatively few products having received FDA approval.

3. Mylan Laboratories: Engages in the development, manufacture, and sale of generic drugs. Generic drugs have the same chemical compositions as drugs that had previously benefited from patent protection but for which the patent has now expired. Generic-drug companies have benefited in recent years from the patent expiration of several major ethical drugs. The major ethical-drug companies, however, have

increasingly offered generic versions of their ethical drugs to compete against the generic-drug companies.

4. Johnson & Johnson: Engages in the development, manufacture, and sale of over-the-counter health care products. Such products do not require a prescription and often benefit from brand recognition.
5. Quintiles: Offers laboratory testing services and expedition of the drug approval process through the FDA for ethical-drug companies that have discovered new drugs. Cost of goods sold for this company represents the salaries of personnel conducting the laboratory testing and drug approval services.

EXHIBIT 1.18

Common-Size Financial Statement Data for Seven Firms in the Pharmaceutical Industry (Problem 1.14)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Income Statement							
Sales	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of Goods Sold	(47.0)	(11.0)	(24.0)	(58.4)	(28.9)	(73.3)	(92.5)
Selling and Administrative	(18.8)	(24.2)	(36.7)	(31.0)	(36.3)	(21.0)	(4.2)
Research and Development	(8.0)	(21.5)	(13.2)	—	(10.9)	—	—
Interest	—	(.3)	(1.0)	(2.6)	(1.6)	—	(.3)
Income Taxes	(10.6)	(14.1)	(7.0)	(3.2)	(6.8)	(2.2)	(1.0)
Other	3.5	5.2	(1.5)	1.0	1.4	.1	(.2)
Net Income	19.1%	34.1%	16.6%	5.8%	16.9%	3.6%	1.8%
Balance Sheet							
Cash	33.7%	66.3%	21.4%	34.9%	24.2%	.1%	1.9%
Receivables	27.5	12.3	19.4	26.4	14.0	3.2	5.0
Inventories	19.1	8.9	12.4	—	9.1	14.1	13.1
Other Current	7.6	8.6	15.9	5.4	8.7	.4	2.3
Intercorporate Investments	—	—	—	—	—	—	—
Property, Plant, and Equipment, net	19.9	48.5	44.6	22.4	23.4	17.7	3.8
Other Noncurrent Assets	49.9	15.9	48.9	31.2	37.2	.4	4.4
Total Assets	157.7%	160.5%	162.6%	120.3%	116.6%	35.9%	30.5%
Current Liabilities	34.4%	25.0%	51.4%	28.5%	24.4%	12.2%	13.7%
Long-Term Debt	2.8	5.6	11.4	2.0	6.5	—	3.9
Other Noncurrent Liabilities	2.2	—	23.8	—	12.3	2.6	1.6
Shareholders' Equity	118.3	129.9	76.0	89.8	73.4	21.1	11.3
Total Equities	157.7%	160.5%	162.6%	120.3%	116.6%	35.9%	30.5%
Cash Flow from Operations/ Capital Expenditures	2.2	3.4	2.3	1.3	2.8	.6	1.3

6. Cardinal Health: Distributes drugs as a wholesaler to drugstores, hospitals, and mass merchandisers. Also offers pharmaceutical benefit management services in which it provides customized databases designed to help customers order more efficiently, contain costs, and monitor their purchases. Cost of goods sold for Cardinal Health includes the cost of drugs sold plus the salaries of personnel providing pharmaceutical benefit management services.
7. Walgreen: Operates a chain of drugstores nationwide. The data in Exhibit 1.18 for Walgreen include the recognition of operating lease commitments for retail space.

Required

Use whatever clues you can to match the companies in Exhibit 1.18 with the firms listed here.

1.15 RECASTING THE FINANCIAL STATEMENTS OF A U.K. COMPANY INTO U.S. FORMATS, TERMINOLOGY, AND ACCOUNTING PRINCIPLES. WPP Group, headquartered in the United Kingdom, is one of the largest marketing and communication services firms in the world. It offers advertising, market research, public relations, and other marketing services through a worldwide network of offices. The firm employs over 65,000 individuals and is located in approximately 100 countries. WPP Group, as the parent company, operates through activities of its individual operating companies.

The financial statements of WPP Group for Year 10 and Year 11 appear in Exhibit 1.19 (balance sheet), Exhibit 1.20 (profit and loss account), and Exhibit 1.21 (cash flow statement). These financial statements reflect reporting formats, terminology, and accounting principles employed in the United Kingdom.

Required

Recast the consolidated balance sheet, consolidated profit and loss account, and the consolidated cash flow statement of WPP Group using reporting formats, terminology, and accounting principles customarily used in the United States.

1.16 COMPREHENSIVE INCOME. Refer to the financial statements of the WPP Group reported in Problem 1.15 as Exhibits 1.19, 1.20, and 1.21. You will note that the U.S. requirement of reporting comprehensive income does not exist in the United Kingdom, as the WPP Group does not report comprehensive income anywhere in these statements. However, WPP Group does report several changes in the recognition and valuation of assets and liabilities that are not reported currently in the consolidated profit and loss account, but likely will be in the future. Examples of these types of changes are detailed in the chapter for PepsiCo, which are reported as part of the firm's comprehensive income.

Required

a. Prepare a Statement of Comprehensive Income for WPP Group for Year 11. Use whatever disclosures from WPP Group's financial statements and notes you believe are appropriate to prepare the statement. Clearly label the components reported in the statement.

b. Calculate WPP Group's net income as a percent of turnover (equivalent to revenues in the United States) for Year 11. Recalculate this ratio using comprehensive income instead of net income and assess the effect of the difference between the two calculations.

EXHIBIT 1.19

WPP Group
Consolidated Balance Sheet
(amounts in millions of pounds)
(Problem 1.15)

	December 31	
	Year 11	**Year 10**
Fixed Assets		
Intangible Assets (Corporate Brands and Goodwill—see Note 1)	£5,389	£4,447
Tangible Assets	432	390
Investments	553	552
Total Fixed Assets	£6,374	£5,389
Current Assets		
Stocks and Work in Progress	£ 237	£ 223
Debtors (Note 2)	2,640	2,414
Investments	77	—
Cash at Bank and in Hand	586	1,086
	£3,540	£3,723
Creditors: Amounts Falling Due within One Year (Note 3)	(4,322)	(4,252)
Net Current Liabilities	£ (782)	£ (529)
Total Assets Less Current Liabilities	£5,592	£4,860
Creditors: Amounts Falling Due after One Year	(1,712)	(1,280)
Provisions for Liabilities and Charges (Note 4)	(105)	(98)
Net Assets Excluding Pension Provision	3,775	3,482
Pension Provision	(135)	(88)
Net Assets	£3,640	£3,394
Capital and Reserves		
Called-Up Share Capital	£ 115	£ 111
Share Premium Account	1,044	1,096
Reserves (Note 5)	2,488	2,374
Profit and Loss Account	(48)	(211)
Share Owners' Funds	£3,599	£3,370
Minority Interests	41	24
Total Capital Employed	£3,640	£3,394

Notes to Exhibit 1.19

Note 1: Intangible Assets represents the portion of the purchase price of marketing services agencies acquired that WPP allocated to the brand names of these agencies. WPP breaks out the £5,389 for Year 11 as Corporate Brands, £950, and Goodwill, £4,439. For Year 10, the breakdown is Corporate Brands, £950, and Goodwill, £3,497.

Note 2: Debtors include the following:

	December 31	
	Year 11	**Year 10**
Trade Debtors	£2,392	£2,181
Other Debtors	248	233
Total	£2,640	£2,414

Note 3: Creditors falling due within one year include the following:

	December 31	
	Year 11	**Year 10**
Bank Loans	£ 319	£ 298
Trade Creditors	2,506	2,575
Taxation	166	164
Other Creditors and Accruals	1,331	1,215
Total	£4,322	£4,252

Note 4: Provisions include the following:

	December 31	
	Year 11	**Year 10**
Deferred Taxation	£ 41	£30
Pensions	18	11
Other	46	57
Total	£105	£98

Note 5: Reserves include the following amounts:

	December 31	
	Year 11	**Year 10**
Cumulative Translation Adjustment	£ 80	£ 133
Retirement Benefit Reserves	45	27
Merger Reserve[a]	2,363	2,214
Total	£2,488	£2,374

[a]WPP Group issued common shares in Year 10 and Year 11 for the acquisition of additional agencies. The increase in the reserve represents the "share premium" (using WPP's terminology) above the "called-up share capital" (again, using WPP's terminology). The equivalent terminology in U.S. GAAP is *additional paid-in capital* for "share premium" and *common stock, par value* for "called-up share capital."

EXHIBIT 1.20

WPP Group
Consolidated Profit and Loss Account
(amounts in millions of pounds)
(Problem 1.15)

	Year 11	Year 10
Turnover	£20,887	£13,949
Gross Profit	£20,655	£13,704
Other Operating Expenses	20,149	13,325
Operating Profit	£ 506	£ 379
Other Income (Expense) Items, net	(24)	38
Interest Payable	(71)	(52)
Profit on Ordinary Activities before Taxation	£ 411	£ 365
Tax on Profit on Ordinary Activities	(126)	(110)
Profit (Loss) on Ordinary Activities after Taxation	£ 285	£ 255
Minority Interest	(14)	(11)
Profit (Loss) for the Financial Year	£ 271	£ 244
Ordinary Dividends	(52)	(38)
Retained Profit (Loss) for the Year	£ 219	£ 206

1.17 RECASTING THE FINANCIAL STATEMENTS OF A GERMAN COMPANY INTO U.S. FORMATS AND TERMINOLOGY. Volkswagen Group AG manufactures passenger cars and commercial vehicles and provides financing for its customers' purchases. The firm also provides financing to dealers that sell its products. Brand names include Volkswagen, Audi, SEAT, Rolls-Royce, and Bentley. Exhibit 1.22 presents a balance sheet at the end of Year 9 and Year 10, and Exhibit 1.23 presents an income statement for Year 9 and Year 10 for Volkswagen.

Required

a. Prepare a balance sheet for Volkswagen on December 31, Year 9 and Year 10, using reporting formats and terminology commonly encountered in the United States.

b. Prepare an income statement for Volkswagen for Year 9 and Year 10, using terminology commonly encountered in the United States. Separate operating revenues and expenses from nonoperating revenues and expenses.

EXHIBIT 1.21

WPP Group
Consolidated Cash Flow Statement
(amounts in millions of pounds)
(Problem 1.15)

	Year 11	Year 10
Operating Activities		
Operating Profit	£ 506	£ 379
Depreciation Charge	125	79
(Increase) Decrease in Stocks	(18)	(15)
(Increase) Decrease in Debtors	(5)	(434)
Increase (Decrease) in Trade Creditors	(473)	539
Increase in Provisions	27	74
Other Adjustments	12	2
Net Cash Flow from Operating Activities	£ 174	£ 624
Returns on Investments and Servicing of Finance		
Interest and Dividends Received	£ 53	£ 25
Interest Paid	(84)	(78)
Dividend Paid	(44)	(26)
Net Cash Flow from Investments and Servicing of Finance	£ (75)	£ (79)
Taxation	£ (78)	£ (81)
Investing Activities		
Purchase of Tangible Fixed Assets	£ (218)	£ (112)
Acquisitions	(696)	(230)
Other Investing Activities	(125)	(51)
Net Cash Outflow from Investing Activities	£(1,039)	£ (393)
Financing Activities		
Proceeds from Issue of Share Capital	£ 69	£ 78
Increase (Decrease) in Bank Loans	439	128
Net Cash Flow from Financing Activities	£ 508	£ 206
Effect of Exchange Rate Changes on Cash and Cash Equivalents	£ 10	£ 35
Cash and Cash Equivalents—Beginning of Year	£ 1,086	£ 774
Cash and Cash Equivalents—End of Year	£ 586	£1,086

EXHIBIT 1.22

Balance Sheet for Volkswagen Group AG
(in millions of euros)
(Problem 1.17)

	December 31	
	Year 10	**Year 9**
Assets		
Fixed Assets		
Intangible Assets (Note 1)	€ 6,596	€ 5,355
Tangible Assets, net	21,735	19,726
Financial Assets	3,999	4,216
Total Fixed Assets	€ 32,330	€29,297
Leasing and Rental Assets (Note 2)	€ 7,284	€ 4,783
Current Assets		
Inventories	€ 9,945	€ 9,335
Receivables	45,166	41,432
Securities	3,610	3,886
Cash on Hand	4,285	2,156
Total Current Assets	€ 63,006	€56,809
Prepaid and Deferred Charges (Note 3)	€ 378	€ 299
Deferred Tax Assets	€ 1,426	€ 1,377
Balance Sheet Total	€104,424	€92,565
Shareholders' Equity and Liabilities		
Shareholders' Equity		
Subscribed Capital:		
Ordinary Shares	€ 815	€ 803
Preferred Shares	272	268
Capital Reserve	4,415	4,296
Revenue Reserves (Note 4)	14,546	13,690
Accumulated Profits	3,947	2,314
Minority Interests (Note 5)	53	49
Total Shareholders' Equity	€ 24,048	€21,420
Deferred Tax Liabilities	2,299	2,095
Provisions (Note 6)	21,782	21,128
Current Borrowings	30,044	26,201
Noncurrent Borrowings	12,750	8,383
Trade Payables	7,055	7,435
Other Payables (Note 7)	6,161	5,699
Deferred Income (Note 8)	285	204
Balance Sheet Total	€104,424	€92,565

EXHIBIT 1.23

Income Statement for Volkswagen Group AG
(in millions of euros)
(Problem 1.17)

	Year 10	Year 9
Sales	€88,540	€83,127
Cost of Sales	(75,586)	(71,130)
Gross Profit—Automotive Division	€12,954	€11,997
Gross Profit—Financial Services Division (Note 9)	1,328	1,213
Selling and Distribution Expenses	(7,554)	(7,080)
General and Administrative Expenses	(2,154)	(2,001)
Other Operating Income (Note 10)	4,118	3,656
Other Operating Expenses (Note 11)	(3,268)	(3,761)
Operating Profit	€ 5,424	€ 4,024
Share of Profit and Losses of Group Companies (Note 12)	289	335
Other Income (Expenses)	(419)	99
Other Financial Results (Note 13)	(885)	(739)
Profit before Tax	€ 4,409	€ 3,719
Taxes on Income	(1,483)	(1,105)
Minority Interest	(11)	(7)
Net Earnings	€ 2,915	€ 2,607

Notes to Exhibits 1.22 and 1.23

Note 1: Intangible Assets consists of license rights, goodwill, and miscellaneous other intangible assets.

Note 2: Leasing and Rental Assets represents vehicles leased to customers. The leases are treated as operating leases, which means that the vehicle remains on the balance sheet of Volkswagen Group AG as vehicle property.

Note 3: Prepaid and Deferred Charges consists of the following:

	December 31	
	Year 10	Year 9
Prepaid Operating Cost	€ 78	€ 63
Other	300	236
Total	€378	€299

Note 4: Revenue Reserves represents earnings not officially designated by the board of directors as available for dividends.

Note 5: Minority Interests represents the ownership interests of shareholders outside Volkswagen Group AG in a consolidated entity within the group. The minority interests at the end of Year 10 consisted primarily of Audi AG shareholders.

Note 6: Provisions include the following:

	December 31	
	Year 10	**Year 9**
Pensions	€ 9,984	€ 9,558
Warranties	3,884	3,704
Restructuring	1,920	2,063
Taxable Payable	1,418	1,424
Other Provisions	4,576	4,379
Total	€21,782	€21,128

Note 7: Other liabilities that are primarily due within one year relate to various aspects of the firm's operations (such as accrued wages and salaries, social security taxes, and other payroll taxes).

Note 8: Consists of up-front payments from operating lease customers and other operating lease-related items.

Note 9: Gross Profit—Financial Services Division consists of the following:

	Year Ended December 31	
	Year 11	**Year 10**
Interest Income—Dealer Financing	€ 499	€ 463
Interest Income—Customer Financing	1,587	1,412
Interest Income—Finance Leases	1,122	1,150
Interest Expense	(1,880)	(1,812)
Gross Profit	€1,328	€1,213

Note 10: Other Operating Income consists primarily of reversing provisions made in prior years and other unspecified operating income.

Note 11: Other Operating Expenses consists of the effects of exchange rate changes and other unspecified operating expenses.

Note 12: Results from participation represent Volkswagen Group AG's share in the earnings of less than majority owned entities.

Note 13: Other Financial Results consists of pension expenses and related provisions.

INTEGRATIVE CASE 1.1

STARBUCKS

The first case at the end of this chapter and each of the remaining chapters in the book is an integrative case involving Starbucks. The series of cases applies the concepts and analytical tools discussed in each chapter to the financial statements and notes of Starbucks. The preparation of responses to the questions in these cases results in an integrated illustration of the six sequential steps in financial statement analysis discussed in this chapter.

Introduction

"They don't just sell coffee, they sell the *Starbucks Experience,*" remarked Deb Mills, while sitting down to enjoy a cup of Starbucks cappuccino with her friend, Kim Shannon. Kim, an investment fund manager for a large insurance firm, reflected on that observation and what it might mean for Starbucks as a potential investment opportunity. Glancing around the store, Kim saw a number of people sitting individually or in groups, lingering over their drinks while chatting, reading, or checking e-mail and surfing the Internet through the store's Wi-Fi network. Kim noted that in addition to the wide selection of hot coffees, French- and Italian-style espressos, teas, and cold coffee-blended drinks, Starbucks also offered some food items and baked goods, packages of roast coffees, coffee-related accessories and equipment, and even a line of its own compact discs. Intrigued, Kim decided to do a full-blown valuation analysis of Starbucks to evaluate whether its business model and common equity shares were as good as their coffee. But first, Kim needed to understand more about the company's business strategy and the economics of its industry and then take an initial look at Starbucks' financial statements.

Recent Growth

Kim's research quickly confirmed her friend's observation that Starbucks is about the experience of enjoying a good cup of coffee, and not just about selling coffee beverages and related products. The Starbucks fiscal Year 4 annual report began with a discussion of "creating new experiences" and repeatedly focused on the *Starbucks Experience.* This approach enabled the firm to grow rapidly from just a single store near Pike's Place Market in Seattle to a global company with 8,569 locations worldwide at the end of fiscal Year 4. Of that total, Starbucks owned and operated 4,293 U.S. stores and 922 international stores, while licensees owned and operated 1,839 U.S. stores and 1,515 international stores. In fiscal Year 4 alone, Starbucks opened 1,344 net new retail locations, of which Starbucks owns 634 stores and licenses the remaining 710 to other owners.

The majority of Starbucks' retail stores (6,132 stores) at the end of fiscal Year 4 are located in the United States, amounting to one Starbucks retail location for approximately every 45,000 U.S. residents! However, Starbucks is clearly not content to simply focus on the U.S. market, as is it extending the reach of its stores globally, with 2,437 stores outside the United States. At the end of fiscal Year 4, Starbucks had 422 company-operated stores in the United Kingdom and another 372 in Canada. In addition, by the end of fiscal Year 4 Starbucks operated more than 1,100 stores in the Asia-Pacific region, and was expanding its already significant presence in the Middle East.

Starbucks' success results in part from its successful development and expansion of a European idea—enjoying a fine coffee-based beverage and sharing that experience with others in a comfortable friendly environment. Starbucks imported the idea of the French

and Italian café into the busy North American lifestyle. Ironically, Starbucks now stands poised to attempt to export its brand and style of café to the European continent. On January 16, Year 4, Starbucks opened its first coffeehouse in France, in the heart of Paris, at 26 Avenue de l'Opera. The ultimate test of Starbucks' retail coffeehouse concept, and a major determinant of whether its growth will continue in the future, is the extent to which it can successfully bring its version of a continental European idea back into Europe itself.

Starbucks CEO Howard Schultz states that his vision and ultimate goal for Starbucks is to have 25,000 Starbucks locations worldwide and to have Starbucks recognized among the world's leading brands. Kim Shannon wondered whether Starbucks can ultimately achieve this level of global reach and penetration because she could name only a few such worldwide companies. One that came to mind is McDonald's, with a worldwide brand and 30,000 retail locations in 119 countries.

The growth in the number of its retail stores is one of the primary drivers of Starbucks' remarkable rate of growth in revenues. In fiscal Year 4, total revenues exceeded $5.3 billion, representing a 30 percent growth rate over fiscal Year 3 revenues of $4.1 billion. But Starbucks' revenue growth is not driven only by opening new stores. On a consolidated basis, Starbucks generated 10 percent comparable store sales growth in fiscal Year 4, which marked the 13th consecutive year in which Starbucks' stores achieved comparable store sales growth rates in excess of 5 percent. Comparable store sales growth reflects the increase in sales from stores opened at least two full years.

New Product Development

One element contributing to Starbucks' same store sales growth is the company's continuing focus on new product development. Starbucks regularly introduces new specialty coffee-based drinks and coffee flavors, as well as iced coffee-based drinks, such as the very successful line of Frappuccino drinks and Iced Shaken Refreshment drinks.

In addition, Starbucks is expanding the scope of its business model through new channel development in order to "reach customers where they work, travel, shop, and dine." The most significant area of expansion of the Starbucks model in recent years is the rapid growth in the number of licensed retail stores. As recently as five years ago, Starbucks had 363 licensed stores, but by the end of fiscal Year 4 the number of licensed stores had mushroomed to 3,354.

To further expand the business model, Starbucks entered into a licensing agreement with Kraft Foods to market and distribute Starbucks whole bean and ground coffee to grocery stores and warehouse club stores. By the end of fiscal Year 4, Starbucks whole bean and ground coffees were available throughout the United States in approximately 20,000 grocery and warehouse club stores. Further, Starbucks sells whole bean and ground coffee through institutional foodservice companies that service business, education, office, hotel, restaurant, airline and other foodservice accounts. For example, in fiscal Year 4 Starbucks (and its subsidiary, Seattle's Best Coffee) was the only super premium national brand coffees promoted by SYSCO Corporation to such foodservice accounts. Finally, Starbucks has formed partnerships to produce and distribute bottled Frappuccino and DoubleShot drinks with PepsiCo, and premium ice creams with Dreyer's Grand Ice Cream, Inc.

Product Supply

Starbucks purchases green coffee beans from coffee-producing regions around the world and then custom roasts and blends them to its exacting standards. Although coffee beans

in general trade in commodity markets and experience volatile prices, Starbucks purchases higher-quality coffee beans that sell at a premium to commodity coffees. Starbucks purchases its coffee beans under fixed-price purchase contracts with various suppliers, with purchase prices reset annually. Starbucks also purchases significant amounts of dairy products from suppliers located near its retail stores. Starbucks purchases paper and plastic products from several suppliers, the prices of which vary with changes in the prices of commodity paper and plastic resin.

Competition in the Specialty Coffee Industry

After some reflection, Kim realized that one of the aspects that made Starbucks' business so successful thus far was that it faced relatively little direct competition. Kim could think of very few companies implementing a comparable business strategy to that of Starbucks. After some investigation, she uncovered several companies with growing chains of retail coffee shops that could be compared to Starbucks, including firms such as Panera Bread Company, Diedrich Coffee, the New World Restaurant Group Inc., and Caribou Coffee Company Inc. (a privately held firm). However, these firms tended to be much smaller than Starbucks, the largest among them being Panera, with 602 bakery-cafés systemwide (515 franchised and 226 company-owned) and total revenues of $479 million for fiscal Year 4.

Kim reasoned that Starbucks' business likely faced some competition from a broader scope of coffee beverage retailers, including fast-food chains such as McDonald's and doughnut chains such as Krispy Kreme, Dunkin' Donuts, and Tim Hortons, but that these types of outlets offered a very different experience from that which Starbucks offered. In addition, Starbucks faced competition from retail sales of coffee beans, which one could brew into coffee at home or at the office. Of course, Starbucks also encountered competition from teas, waters, juices, and other types of soft drinks and nonalcoholic beverages.

Financial Statements

Exhibit 1.24 presents comparative balance sheets for Starbucks for the four fiscal years ending September, Year 4. Exhibit 1.25 presents comparative income statements and Exhibit 1.26 presents comparative statements of cash flows for the three fiscal years ending September, Year 4.

Required

Respond to the following questions relating to Starbucks.

Industry and Strategy Analysis

a. Apply Porter's five forces framework to the specialty coffee retail industry.
b. How would you characterize the strategy of Starbucks? How does Starbucks create value for its customers? What critical risk and success factors must Starbucks manage?

Balance Sheet

c. Describe how Cash differs from Cash Equivalents.
d. Why do debt and equity securities appear on the balance sheet under both current assets (Marketable Securities) and noncurrent assets (Investments in Securities)?
e. Why do accounts receivable appear net of allowance for uncollectible accounts? Identify the events or transactions that cause the allowance account to increase and decrease.

EXHIBIT 1.24

Starbucks Corporation Comparative Balance Sheet
(amounts in millions)
(Integrative Case 1.1)

September 30:	Year 4	Year 3	Year 2	Year 1
Assets				
Cash and Cash Equivalents	$ 299.1	$ 200.9	$ 99.7	$ 51.3
Marketable Securities	353.9	149.1	227.7	169.2
Accounts Receivable, net	140.2	114.5	97.6	90.4
Inventories	422.7	342.9	263.2	221.3
Prepayments and Deferred Income Taxes	135.0	102.6	84.6	61.7
Total Current Assets	$1,350.9	$ 910.0	$ 772.8	$ 593.9
Investment in Securities	$ 306.9	$ 280.4	$ 102.5	$ 63.1
Property, Plant, and Equipment, at cost	$2,877.7	$2,516.3	$2,116.2	$1,702.3
Accumulated Depreciation	(1,326.3)	(1,068.6)	(814.4)	(605.3)
Net	$1,551.4	$1,447.7	$1,301.8	$1,097.0
Other Noncurrent Assets	$ 181.3	$ 140.4	$ 73.2	$ 53.7
Total Assets	$3,390.5	$2,778.5	$2,250.3	$1,807.7
Liabilities and Shareholders' Equity				
Accounts Payable	$ 199.3	$ 169.0	$ 136.0	$ 127.9
Notes Payable	—	—	—	62.0
Current Portion of Long-Term Debt	.7	.7	.7	.7
Other Current Liabilities	546.2	404.5	325.9	240.1
Total Current Liabilities	$ 746.2	$ 574.2	$ 462.6	$ 430.7
Long-Term Debt	3.6	4.4	5.1	5.8
Deferred Income Taxes	21.8	12.5	22.5	4.5
Other Noncurrent Liabilities	144.7	116.3	46.8	.4
Total Liabilities	$ 916.3	$ 707.4	$ 537.0	$ 441.4
Common Stock	$ .4	$ .4	$ .4	$ .4
Additional Paid-In Capital	995.7	998.1	930.0	791.2
Retained Earnings	1,448.9	1,058.3	791.5	580.1
Accumulated Other Comprehensive Income	29.2	14.3	(8.6)	(5.4)
Total Shareholders' Equity	$2,474.2	$2,071.1	$1,713.3	$1,366.3
Total Liabilities and Shareholders' Equity	$3,390.5	$2,778.5	$2,250.3	$1,807.7

EXHIBIT 1.25

Starbucks Corporation Comparative Income Statement for the Year Ended September 30 (amounts in millions) (Integrative Case 1.1)

	Year 4	Year 3	Year 2
Revenues			
Company-Operated Retail Stores	$4,457.4	$3,449.6	$2,792.9
Specialty:			
Licensing	565.8	409.6	311.9
Foodservice and Other	271.1	216.3	184.1
Total Operating Revenues	$5,294.3	$4,075.5	$3,288.9
Expenses			
Cost of Sales Including Occupancy Costs	$2,191.4	$1,681.4	$1,347.0
Store Operating Expenses	1,790.2	1,379.6	1,109.8
Nonretail Operating Expenses	171.6	141.3	106.1
Depreciation and Amortization	289.2	244.7	210.7
General and Administrative	304.3	244.6	234.6
Total Expenses	$4,746.7	$3,691.6	$3,008.2
Income from Equity Investees	$ 60.7	$ 38.4	$ 33.5
Operating Income	$ 608.3	$ 422.3	$ 314.2
Interest and Other Income	14.4	11.9	9.6
Interest Expense	(.3)	(.3)	(.3)
Gain on Sale of Investments	—	—	13.4
Income before Income Taxes	$ 622.4	$ 433.9	$ 336.9
Income Tax Expense	231.8	167.1	125.5
Net Income	$ 390.6	$ 266.8	$ 211.4

f. How does the account Accumulated Deprecation on the balance sheet differ from Depreciation Expense on the income statement?

g. Deferred income taxes appear among both current assets and noncurrent liabilities on the balance sheet. Under what circumstances will deferred income taxes give rise to an asset? To a liability?

h. Accumulated Other Comprehensive Income includes unrealized gains and losses from marketable securities and investments in securities, as well as unrealized gains and losses from translating the financial statements of foreign subsidiaries into U.S. dollars. Why are these gains and losses not included in net income on the income statement? When, if ever, will these gains and losses appear in net income?

EXHIBIT 1.26

Starbucks Corporation Comparative Statements of Cash Flows
for the Year Ended September 30
(amounts in millions)
(Integrative Case 1.1)

	Year 4	Year 3	Year 2
Operations			
Net Income	$ 390.6	$ 266.8	$ 211.4
Depreciation and Amortization	314.0	266.3	226.3
Other Adjustments	51.3	20.7	31.1
Changes in Working Capital:			
(Increase) Decrease in Receivables	(25.7)	(16.9)	(7.2)
(Increase) Decrease in Inventories	(77.7)	(64.8)	(41.4)
(Increase) Decrease in Prepayments	9.1	4.0	(5.3)
Increase (Decrease) in Accounts Payable	27.9	25.0	5.5
Increase (Decrease) in Other Current Liabilities	130.5	85.9	76.0
Cash Flow from Operations	$ 820.0	$ 587.0	$ 496.4
Investing			
Marketable Securities and Investments Sold	$ 354.6	$ 269.6	$ 223.1
Acquisition of Property, Plant, and Equipment	(412.5)	(378.0)	(394.3)
Marketable Securities and Investments Purchased	(566.6)	(323.3)	(340.0)
Other Investing	(33.9)	(88.2)	7.0
Net Cash Flow from Investing	$(658.4)	$(519.9)	$(504.2)
Financing			
Issue of Common Stock	$ 137.6	$ 107.2	$ 107.5
Decrease in Short-Term Borrowing	—	—	—
Decrease in Long-Term Borrowing	(.7)	(.7)	(.7)
Acquisition of Common Stock	(203.4)	(75.7)	(52.2)
Other Financing	3.1	3.3	1.6
Net Cash Flow from Financing	$ (63.4)	$ 34.1	$ 56.2
Change in Cash	$ 98.2	$ 101.2	$ 48.4
Cash, Beginning of Year	200.9	99.7	51.3
Cash, End of Year	$ 299.1	$ 200.9	$ 99.7

Income Statement

i. Starbucks reports three principal sources of revenues: company-operated stores, licensing, and foodservice. Using the narrative information provided in this case, describe the nature of each of these three sources of revenue.

j. What types of expenses does Starbucks likely include in (1) Cost of Sales, (2) Occupancy Costs, and (3) Store Operating Expenses?

k. Starbucks reports Income from Equity Investees in its income statement. Using the narrative information provided in this case, describe the nature of this type of income.

Statement of Cash Flows

l. Why does net income differ from the amount of cash flow from operations?
m. Why does Starbucks add the amount of depreciation and amortization expense to net income when computing cash flow from operations?
n. Why does Starbucks show an increase in accounts receivable as a subtraction when computing cash flow from operations?
o. Why does Starbucks show an increase in inventory as a subtraction when computing cash flow from operations?
p. Why does Starbucks show an increase in accounts payable as an addition when computing cash flow from operations?
q. Starbucks includes marketable securities in current assets on the balance sheet, yet it reports purchases and sales of marketable securities as investing activities on the statement of cash flows. Explain why changes in marketable securities are investing activities when changes in most other current assets (accounts receivable, inventories) are operating activities.
r. Starbucks includes changes in Notes Payable (short-term borrowing) as a financing activity on the statement of cash flows. Explain why changes in Notes Payable are a financing activity when most other changes in current liabilities (accounts payable, other current liabilities) are operating activities.

Relations between Financial Statements

s. Prepare an analysis that explains the change in retained earnings from $1,058.3 at the end of fiscal Year 3 to $1,448.9 at the end of fiscal Year 4.
t. Prepare an analysis that explains the change in property, plant, and equipment, at cost, from $2,516.3 at the end of fiscal Year 3 to $2,877.7 at the end of fiscal Year 4.

Interpreting Financial Statement Relations

Exhibit 1.27 presents common-size and percentage change balance sheets and Exhibit 1.28 presents common-size and percentage change income statements for Starbucks for Year 2 to Year 4. Respond to the following questions.

u. The dollar amount shown for property, plant, and equipment net of accumulated depreciation (see Exhibit 1.24) increased between the end of fiscal Year 2 and the end of fiscal Year 4, yet the percentage of total assets comprising these assets declined (see Exhibit 1.27). Explain.
v. The proportion of liabilities plus shareholders' equity comprising liabilities increased between the end of fiscal Year 2 and fiscal Year 4, while the proportion of shareholders' equity declined. What are the likely explanations for these changes?
w. The proportion of total shareholders' equity comprising common stock and additional paid-in capital declined between the end of fiscal Year 2 and fiscal Year 4, while the proportion of retained earnings increased. What are the likely explanations for these changes?
x. How has the revenue mix of Starbucks changed between fiscal Year 2 and fiscal Year 4? Relate these changes to Starbucks' business strategy.
y. Net income as a percentage of total revenues increased from 6.4 percent in fiscal Year 2 to 7.4 percent in fiscal Year 4. Identify the most important reasons for this change.

EXHIBIT 1.27

Starbucks Corporation Common-Size and Percentage Change Balance Sheet (Integrative Case 1.1)

	Common-Size Balance Sheet			Percentage Change Balance Sheet	
September 30:	**Year 4**	**Year 3**	**Year 2**	**Year 4**	**Year 3**
Assets					
Cash and Cash Equivalents	8.8%	7.2%	4.4%	48.9%	101.5%
Marketable Securities	10.4	5.4	10.1	137.6%	(34.5%)
Accounts Receivable, net	4.1	4.1	4.3	22.4%	17.3%
Inventories	12.5	12.3	11.7	23.3%	30.3%
Prepayments and Deferred Income Taxes	4.0	3.7	3.8	31.6%	21.3%
Total Current Assets	39.8%	32.7%	34.3%	48.5%	17.8%
Investment in Securities	9.1%	10.1%	4.6%	9.5%	173.6%
Property, Plant, and Equipment, at cost	84.9%	90.6%	94.0%	14.4%	18.9%
Accumulated Depreciation	(39.1)	(38.5)	(36.2)	24.1%	31.2%
Net	45.8	52.1	57.8	7.2%	11.2%
Other Noncurrent Assets	5.3	5.1	3.3	29.1%	91.8%
Total Assets	100.0%	100.0%	100.0%	22.0%	23.5%
Liabilities and Shareholders' Equity					
Accounts Payable	5.9%	6.1%	6.1%	17.9%	24.3%
Notes Payable	—	—	—	—	—
Current Portion of Long-Term Debt	—	—	—	—	—
Other Current Liabilities	16.1	14.6	14.5	35.0%	24.1%
Total Current Liabilities	22.0%	20.7%	20.6%	30.0%	24.1%
Long-Term Debt	.1	.2	.2	(18.2%)	(13.7%)
Deferred Income Taxes	.6	.4	1.0	74.4%	(44.4%)
Other Noncurrent Liabilities	4.3	4.2	2.1	24.4%	148.5%
Total Liabilities	27.0%	25.5%	23.9%	29.5%	31.7%
Common Stock	—	—	—	—	—
Additional Paid-In Capital	29.4%	35.9%	41.3%	(.2)%	7.3%
Retained Earnings	42.7	38.1	35.2	36.9%	33.7%
Accumulated Other Comprehensive Income	.9	.5	(.4)	104.2%	(266.3%)
Total Shareholders' Equity	73.0%	74.5%	76.1%	19.5%	20.9%
Total Liabilities and Shareholders' Equity	100.0%	100.0%	100.0%	22.0%	23.5%

EXHIBIT 1.28

Starbucks Corporation Common-Size and Percentage Change Income Statements for the Year Ended September 30 (Integrative Case 1.1)

	Common-Size Income Statement			Percentage Change Income Statement	
	Year 4	Year 3	Year 2	Year 4	Year 3
Revenues					
Company-Operated Retail Stores	84.2%	84.6%	84.9%	29.2%	23.5%
Specialty:					
Licensing	10.7	10.1	9.5	38.1%	31.3%
Foodservice and Other	5.1	5.3	5.6	25.3%	17.4%
Total Revenues	100.0%	100.0%	100.0%	29.9%	23.9%
Expenses					
Cost of Sales Including Occupancy Costs	41.4%	41.2%	41.0%	30.3%	24.8%
Store Operating Expenses	33.8	33.8	33.7	29.8%	24.9%
Nonretail Operating Expenses	3.2	3.5	3.2	21.4%	33.2%
Depreciation and Amortization	5.5	6.0	6.4	18.2%	16.1%
General and Administrative	5.7	6.0	7.1	24.4%	4.3%
Total Expenses	89.6%	90.5%	91.4%	28.6%	22.7%
Income from Equity Investees	1.1	.9	1.0	58.1%	14.6%
Operating Income	11.5%	10.4%	9.6%	44.0%	34.4%
Interest and Other Income	.3	.3	.2	21.0%	20.8%
Interest Expense	—	—	—	—	—
Gain (Loss) on Investments	—	—	.4	—	—
Income before Income Taxes	11.8%	10.7%	10.2%	43.4%	28.8%
Income Tax Expense	4.4	4.1	3.8	38.7%	33.1%
Net Income	7.4%	6.6%	6.4%	46.4%	26.2%

CASE 1.2

NIKE: SOMEWHERE BETWEEN A SWOOSH AND A SLAM DUNK

Nike's principal business activity involves the design, development, and worldwide marketing of high-quality footwear, apparel, equipment, and accessory products. Almost 25,000 employees work for the firm. Nike boasts the largest worldwide market share in the athletic-footwear industry and a leading market share in sports and athletic apparel.

This case uses the financial statements for Nike and excerpts from its notes to review important concepts underlying the three principal financial statements (balance sheet,

income statement, and statement of cash flows) and relationships among them. The case also introduces tools for analyzing financial statements.

Industry Economics

Product Lines

Industry analysts debate whether the athletic-footwear industry is a performance-driven athletic-footwear industry or a fashion-driven sneaker industry. Proponents of the performance view point to Nike's dominant market position, which results in part from continual innovation in product development. Proponents of the fashion view point to the difficulty of protecting technological improvements from competitor imitation, the large portion of total expenses comprising advertising, the role of sports and other personalities in promoting athletic shoes, and the fact that only a small percentage of athletic-footwear consumers use the footwear for its intended purpose (such as basketball or running).

Growth

There are only modest growth opportunities for footwear in the United States. Concern exists with respect to both volume increases (how many pairs of athletic shoes will consumers tolerate in their closets) and price increases (will consumers continue to pay prices for innovative athletic footwear that is often twice as costly as other footwear).

Athletic-footwear companies have diversified their revenue sources in two directions in recent years. One direction involves increased emphasis on international sales. With dress codes becoming more casual in Europe and East Asia and interest in American sports such as basketball and football becoming more widespread, industry analysts view international markets as the major growth markets during the next several years. Increased emphasis on soccer in the United States aids companies such as Adidas with reputations for quality soccer footwear.

The second direction for diversification is sports and athletic apparel. The three leading athletic-footwear companies capitalize on their brand name recognition and distribution channels to create a line of sportswear that coordinates with their footwear. Team uniforms and matching apparel for coaching staffs have become a major growth avenue recently. For example, Bauer/Nike Hockey manufactures and distributes ice skates, skate blades, in-line roller skates, protective gear, hockey sticks, and hockey jerseys and accessories under both the Bauer and Nike brand names.

Production

Essentially all athletic footwear and most apparel come from factories in Asia, primarily China (40 percent), Indonesia (31 percent), Vietnam, South Korea, Taiwan, and Thailand. The footwear companies do not own any of these manufacturing facilities. They typically hire manufacturing representatives to source and oversee the manufacturing process, helping to ensure quality control and serving as a link between the design and the manufacture of products. The manufacturing process is labor intensive, with sewing machines used as the primary equipment. Footwear companies typically price their purchases from these factories in U.S. dollars.

Marketing

Athletic-footwear and sportswear companies sell their products to consumers through various independent department, specialty, and discount stores. Their sales forces educate

retailers on new product innovations, store display design, and similar activities. The dominant market shares of Nike and the other major players limit retailers' shelf space, and slower growth in sales makes it increasingly difficult for the remaining athletic footwear companies to gain market share. The slower growth has also led the major players to increase significantly their advertising and payments for celebrity endorsements.

Athletic-footwear and sportswear companies have typically used independent distributors to market their products in other countries. With increasing brand recognition and anticipated growth in international sales, these companies have recently acquired an increasing number of their distributors to capture more of the profits generated in other countries and maintain better control of international marketing.

Finance

Compared to other apparel firms, the athletic-footwear firms generate higher profit margins and rates of return. These firms use cash flow generated from this superior profitability to finance needed working capital investments (receivables and inventories). Long-term debt tends to be minimal, reflecting the absence of significant investments in manufacturing facilities.

Nike

Nike targets the serious athlete with performance-driven footwear. In recent years, the firm has particularly emphasized growth outside the United States. The firm sums up the company's philosophy and driving force behind Nike's success by saying: "We are midway on our journey to becoming a truly global company. We are creating a product that is meaningful beyond the stick-and-ball shores of the United States. Consumers around the world are seeing and embracing Nike."

To maintain its technological edge, Nike engages in extensive research at its research facilities in Beaverton, Oregon. It continually alters its product line to introduce new footwear and evolutionary improvements in existing products.

Nike maintains a reputation for timely delivery of footwear products to its customers, primarily as a result of its "Futures" ordering program. Under this program, retailers book orders five to six months in advance. Nike guarantees 90 percent delivery of the order within a set time period at the agreed price at the time of ordering. Approximately 86 percent of footwear orders received by Nike during Year 4 came though its Futures program. This program allows the company to improve production scheduling, thereby reducing inventory risk. However, the program locks in prices and increases Nike's risk of change in raw materials and labor costs.

Independent contractors manufacture virtually all of Nike's products. Nike sources all of its footwear from other countries and approximately 95 percent of its apparel.

The following exhibits present information for Nike:

Exhibit 1.29: Consolidated balance sheets for Year 3 and Year 4.
Exhibit 1.30: Consolidated income statements for Year 2, Year 3, and Year 4.
Exhibit 1.31: Consolidated statements of cash flows Year 2, Year 3, and Year 4.
Exhibit 1.32: Excerpts from the notes to Nike's financial statements.
Exhibit 1.33: Common-size and percentage change income statements.
Exhibit 1.34: Common-size and percentage change balance sheets.

Required

Study the financial statements and notes for Nike and then respond to the following questions.

EXHIBIT 1.29

Consolidated Balance Sheet for Nike
(amounts in millions)
(Case 1.2)

May 31:	Year 4	Year 3
Assets		
Cash and Cash Equivalents	$ 828	$ 634
Short-Term Investments	401	—
Accounts Receivable, less allowance for doubtful accounts of $95 and $82	2,120	2,084
Inventories	1,634	1,515
Deferred Income Taxes	165	222
Prepayments	364	332
Total Current Assets	$5,512	$4,787
Property, Plant, and Equipment, net of accumulated depreciation of $1,545 and $1,368	1,587	1,621
Identifiable Intangible Assets	367	118
Goodwill	135	66
Deferred Income Taxes and Other Assets	291	229
Total Assets	$7,892	$6,821
Liabilities and Shareholders' Equity		
Accounts Payable	$ 764	$ 573
Notes Payable	146	75
Current Portion of Long-Term Debt	7	206
Other Current Liabilities	1,092	1,167
Total Current Liabilities	$2,009	$2,021
Long-Term Debt	683	551
Deferred Income Taxes and Other Liabilities	418	258
Total Liabilities	$3,110	$2,830
Common Stock	$ 3	$ 3
Additional Paid-In Capital	888	589
Accumulated Other Comprehensive Income	(86)	(240)
Retained Earnings	3,977	3,639
Total Shareholders' Equity	$4,782	$3,991
Total Liabilities and Shareholders' Equity	$7,892	$6,821

Income Statement

a. Identify the time at which Nike recognizes revenues. Does this timing of revenue recognition seem appropriate? Explain.

b. Identify the cost-flow assumption(s) that Nike uses to measure cost of goods sold. Does Nike's choice of cost-flow assumption(s) seem appropriate? Explain.

EXHIBIT 1.30

Consolidated Income Statement for Nike
(amounts in millions)
(Case 1.2)

Year Ended May 31:	Year 4	Year 3	Year 2
Sales Revenue	$12,253	$10,697	$ 9,893
Cost of Goods Sold	(7,001)	(6,314)	(6,005)
Selling and Administrative	(3,702)	(3,154)	(2,836)
Interest	(25)	(29)	(34)
Other Income (Expense), net	(75)	(77)	(1)
Income before Income Taxes	$ 1,450	$ 1,123	$ 1,017
Income Taxes	(504)	(383)	(349)
Net Income	$ 946	$ 740	$ 668

c. Nike reports property, plant, and equipment on its balance sheet and discloses the amount of depreciation for each year in its statement of cash flows. Why doesn't depreciation expense appear among its expenses on the income statement?

d. Identify the portion of Nike's income tax expense of $504 million for Year 4 that is currently payable to governmental entities and the portion that is deferred to future years. Why do governmental entities permit firms to defer payment of their income taxes to future years?

Balance Sheet

a. Why do accounts receivable appear net of allowance for doubtful accounts? Identify the events or transactions that cause the allowance account to increase or decrease.

b. Identify the depreciation method(s) that Nike uses for its buildings and equipment. Does Nike's choice of depreciation method(s) seem appropriate?

c. Nike includes identifiable intangible assets on its balance sheet as an asset. Does this account include the value of the Nike name and "swoosh" trademark? Explain.

d. Nike includes deferred income taxes among current assets, noncurrent assets, and noncurrent liabilities. Under what circumstances will deferred income taxes give rise to an asset? To a liability?

e. Nike reports accumulated other comprehensive income of ($86) million at the end of Year 4 and ($240) million at the end of Year 3. Why are these "losses" reported as part of shareholders' equity and not as part of net income in the income statement?

Statement of Cash Flows

a. Why does the amount of net income differ from the amount of cash flow from operations?

b. Why does Nike report depreciation as an addition to net income in calculating cash flow from operations?

c. Why does Nike report deferred income taxes as an addition to net income in calculating cash flow from operations for Year 4 (as well as each of the previous years)?

EXHIBIT 1.31

Consolidated Statement of Cash Flows for Nike
(amounts in millions)
(Case 1.2)

Year Ended May 31:	Year 4	Year 3	Year 2
Operations			
Net Income	$ 946	$ 740	$ 668
Depreciation	252	239	224
Deferred Income Taxes	19	55	16
Other	105	36	62
(Increase) Decrease in Accounts Receivable	83	(136)	(135)
(Increase) Decrease in Inventories	(56)	(103)	55
(Increase) Decrease in Other Current Assets	(104)	61	17
Increase (Decrease) in Accounts Payable and Other Current Liabilities	269	30	175
Cash Flow from Operations	$1,514	$ 922	$1,082
Investing			
Additions to Property, Plant, and Equipment	$ (224)	$(186)	$ (283)
Disposals of Property, Plant, and Equipment	12	15	16
Purchase of Short-Term Investments	(401)	—	—
Acquisition of Subsidiary	(289)	—	—
Additions to Other Assets	(43)	(47)	(29)
Increases (Decrease) in Other Liabilities	(1)	2	(7)
Cash Flow from Investing	$ (946)	$(216)	$ (303)
Financing			
Additions to Long-Term Debt	$ 154	$ 90	$ 330
Reductions in Long-Term Debt	(207)	(56)	(80)
Increase (Decrease) in Notes Payable	—	(351)	(433)
Proceeds from Exercise of Stock Options and Other Stock Issues	254	44	60
Repurchase of Common Stock	(420)	(196)	(227)
Dividends	(179)	(138)	(129)
Other	24	(41)	(28)
Cash Flow from Financing	$ (374)	$(648)	$ (507)
Change in Cash	$ 194	$ 58	$ 272
Cash—Beginning of Year	634	576	304
Cash—End of Year	$ 828	$ 634	$ 576

d. Why does Nike add decreases in accounts receivable to net income when calculating cash flow from operations for Year 4?

e. Why does Nike subtract increases in inventory from net income when calculating cash flow from operations for Year 4?

EXHIBIT 1.32

Excerpts from Notes to Consolidated Financial Statements for Nike
(amounts in millions)
(Case 1.2)

Summary of Significant Accounting Policies

Recognition of Revenues: Nike recognizes revenue at time of sale to its customers and as it earns fees on sales by licensees. Provisions for sales discounts and returns are made at the time of sale.

Inventory Valuation: Inventories appear at lower of cost or market. Nike determines cost using the first-in, first-out (FIFO) method.

Property, Plant, and Equipment and Depreciation: Property, plant, and equipment appear at acquisition cost. Nike computes depreciation using the straight-line method for buildings and leasehold improvements and a declining-balance method for machinery and equipment, based on estimated useful lives ranging from 3 to 32 years.

Identifiable Intangible Assets and Goodwill: This account represents the excess of the purchase price of acquired businesses over the market values of identifiable net assets, net of amortization to date on assets with limited lives.

Foreign Currency Translation: Adjustments resulting from translating foreign functional currency financial statements into U.S. dollars and gains and losses from derivatives that Nike uses to hedge changes in exchange rate are included in accumulated other comprehensive income.

Income Taxes: Nike provides deferred income taxes for temporary differences between income before taxes for financial reporting and tax reporting. Income tax expense includes the following:

	Year 4	Year 3	Year 2
Currently Payable	$495	$349	$336
Deferred	9	34	3
Income Tax Expense	$504	$383	$349

Stock Repurchases: Nike repurchases outstanding shares of its common stock each year and retires them. Any difference between the price paid and the book value of the shares appears as an adjustment of retained earnings.

f. Why does Nike add increases in accounts payable and other current liabilities to net income when calculating cash flow from operations for Year 4?

g. Given that firms often sell property, plant, and equipment at a gain or loss, why does Nike include the proceeds of disposal of these assets as an investing activity instead of as an operating activity?

h. Given that notes payable appear on the balance sheet as a current liability, why does Nike include changes in this liability as a financing activity instead of as an operating activity?

Relations between Financial Statement Items

a. Compute the amount of cash collected from customers during Year 4.

b. Compute the amount of cash payments made to suppliers of merchandise during Year 4.

EXHIBIT 1.33

Common-Size and Percentage Change Income Statements for Nike (Case 1.2)

	Common-Size Income Statements			Percentage Change Income Statements	
Fiscal Year Ended May 31:	**Year 4**	**Year 3**	**Year 2**	**Year 4**	**Year 3**
Nike					
Sales Revenues	100.0%	100.0%	100.0%	14.5%	8.1%
Cost of Goods Sold	(57.2)	(59.0)	(60.7)	10.9%	5.1%
Selling and Administrative Expenses	(30.2)	(29.5)	(28.7)	17.4%	11.2%
Interest Expense	(.2)	(.3)	(.3)	(13.8%)	(14.7%)
Other Income (Expense)	(.6)	(.7)	—	(2.6%)	—
Income before Taxes	11.8%	10.5%	10.3%	29.1%	10.4%
Income Taxes	(4.1)	(3.6)	(3.5)	31.6%	9.7%
Net Income	7.7%	6.9%	6.8%	27.8%	10.8%

c. Prepare an analysis that accounts for the change in the property, plant, and equipment account and the accumulated depreciation account during Year 4. Calculate the gain or loss that Nike recognized on the disposal of property, plant, and equipment during Year 4.

d. Identify the reasons for the change in retained earnings during Year 4.

Interpreting Financial Statement Relationships

a. Exhibit 1.33 presents common-size and percentage change income statements for Nike for Year 2, Year 3, and Year 4. What are the likely reasons for the higher net income/sales revenue percentages for Nike between Year 2 and Year 4?

b. What are the likely reasons for the decrease in the cost of goods sold to sales percentages between Year 2 and Year 4?

c. What are the likely reasons for the increase in the selling and administrative expenses to sales percentages between Year 2 and Year 4?

d. Exhibit 1.34 presents common-size and percentage change balance sheets for Nike at the end Year 2, Year 3, and Year 4. What is the likely explanation for the relatively small percentages for property, plant, and equipment?

e. What is the likely explanation for the relatively small percentages for long-term debt?

f. What is the likely explanation for the small percentage increase for property, plant, and equipment for Nike for Year 3 and the small decrease in Year 4?

g. Refer to the statement of cash flows for Nike in Exhibit 1.31. Net income increased between Year 2 and Year 3, but cash flow from operations decreased. What is the likely reason for the different direction of these changes?

EXHIBIT 1.34

Common-Size and Percentage Change Balance Sheets for Nike (Case 1.2)

	Common-Size Balance Sheets			Percentage Change Balance Sheets	
	Year 4	Year 3	Year 2	Year 4	Year 3
Assets					
Cash	15.6%	9.3%	8.9%	93.8%	10.1%
Accounts Receivable	26.9	30.6	28.0	1.7%	15.5%
Inventories	20.7	22.2	21.3	7.9%	10.3%
Prepayments	6.7	8.1	6.3	(4.5%)	38.2%
Total Current Assets	69.9%	70.2%	64.5%	15.1%	15.2%
Property, Plant, and Equipment, net	20.1	23.7	25.1	(2.1%)	0.4%
Other Noncurrent Assets	10.0	6.1	10.4	92.0%	(38.5%)
Total Assets	100.0%	100.0%	100.0%	15.7%	5.9%
Liabilities and Shareholders' Equity					
Accounts Payable	9.7%	8.4%	7.8%	33.3%	13.7%
Notes Payable	1.8	1.1	6.6	94.7%	(82.4%)
Current Portion of Long-Term Debt	0.1	3.0	0.9	(96.6%)	274.5%
Other Current Liabilities	13.8	17.1	13.2	(6.4%)	37.6%
Total Current Liabilities	25.4%	29.6%	28.5%	(0.6%)	10.3%
Long-Term Debt	8.7	8.1	9.7	24.0%	(12.0%)
Deferred Income Taxes and Other Liabilities	5.3	3.8	2.2	(62.0%)	81.7%
Total Liabilities	39.4%	41.5%	40.4%	9.9%	8.8%
Minority Interest	—	—	—	—	—
Common Stock	—	—	—	—	—
Additional Paid-In Capital	11.3%	8.6%	8.4%	50.8%	9.3%
Retained Earnings	50.4	53.3	54.2	9.3%	4.3%
Accumulated Other Comprehensive Income	(1.1)	(3.4)	(3.0)	(62.2%)	25.0%
Treasury Stock	—	—	—	—	—
Total Shareholders' Equity	60.6%	58.5%	59.6%	19.8%	3.9%
Total Liabilities and Shareholders' Equity	100.0%	100.0%	100.0%	15.7%	5.9%

h. Cash flow from operations exceeded net income during all three years. Why is this the case?
i. How has Nike primarily financed its acquisitions of property, plant, and equipment during the three years?
j. What are the likely reasons for the repurchases of common stock during the three years?
k. The dividends paid by Nike increased each year ($129 million in Year 2, $138 million in Year 3, and $179 million in Year 4). Given that Nike repurchased its stock each year, what is the likely explanation for the increasing amount of dividends?

Chapter 2

Asset and Liability Valuation and Income Measurement

Learning Objectives

1. **Understand the difference between measuring assets and liabilities using historical values versus current values.**
2. **Understand the relation between the valuation of assets and liabilities on the balance sheet and the measurement of net income on the income statement.**
3. **Measure the income tax effects of various income transactions.**
4. **Use an analytical framework to identify the effects of various business transactions on the balance sheet and the income statement.**

Chapter 1 provided a broad overview of financial statement analysis, introducing the six-step framework for financial statement analysis that we use throughout this text. It also described tools used to analyze industry economics and firm strategies and the effects of economic and strategic factors on profitability and risk. Chapter 1 also described the purpose and content of the three principal financial statements, tools for analyzing them, and links between financial statement information and valuation. The remainder of the text develops all of these ideas more completely and provides tools for each step of the framework. To lay the groundwork for these tools for effective analysis of financial statements, we must first understand three fundamental elements that are part of the foundation of financial statements: (1) the principles that underlie the measurement and reporting of financial position and profitability; (2) the pervasive role of income taxes; and (3) the impact of business transactions on financial statements. This chapter explores these three fundamental elements by demonstrating their effects on the balance sheet and income statement. Specifically, we do the following:

- Examine the critical link between the valuation of assets and liabilities and the measurement of net income and comprehensive income.
- Examine the income tax effects of recognizing changes in the value of assets and liabilities on net income and comprehensive income.
- Provide an analytical framework for identifying the effects of value changes on individual balance sheet and income statement accounts.

Chapter 3 discusses the important concepts and analytical tools for the statement of cash flows in greater depth.

ASSET AND LIABILITY VALUATION

The balance sheet reports the assets of a firm and the claims on those assets by creditors (liabilities) and owners (shareholders' equity) at a moment in time. Assets are economic resources that provide a firm with future services or benefits. Liabilities are obligations to sacrifice economic resources in the future for services or benefits already received. Shareholders' equity is the residual claim on assets not required to satisfy the claims of creditors. Chapter 7 discusses the economic resources that firms recognize as assets (for example, inventories, buildings, and equipment) and those that GAAP does not recognize as assets (for example, internally developed brand names and technologies). Chapter 8 discusses the obligations that firms recognize as liabilities (for example, advances from customers or accounts payable to suppliers) and those not normally recognized (for example, obligations related to unsettled lawsuits or mutually unexecuted contracts). Our concern in this section is the valuation of *recognized* assets and liabilities.

Assets provide economic benefits to a firm in the future, and liabilities require firms to sacrifice economic resources in the future. Although assets and liabilities clearly have a future orientation, their valuation on the balance sheet might reflect historical information, current information, or future information. Historical values use information about the value of an asset when a firm acquired it, and the value of a liability when a firm initially incurred it. Current values use information about the value of an asset and a liability at the date of the balance sheet. Valuation methods that reflect historical values include the following:

1. acquisition cost,
2. adjusted acquisition cost, and
3. present value of cash flows using historical interest rates.

Valuation methods that reflect current values include the following:

1. current replacement cost,
2. net realizable value, and
3. present value of cash flows using current interest rates.

Both present value methods use projected cash flows but discount those cash flows to a present value using either historical interest rates or current interest rates. Thus, we view these two present value methods as reflecting either historical values or current values.

Historical Value: Acquisition Cost

The acquisition cost of an asset is the amount paid initially to acquire the asset. Acquisition cost includes all costs required to prepare the asset for its intended use, but does not include costs to operate, or use, the asset.

Example 1

Red Lobster Restaurants acquired a tract of land for a restaurant site at a cost of $120,000. It paid attorneys $4,500 to conduct a title search and prepare the required legal documents for the purchase. It paid a state real estate transfer tax of $1,200. The acquisition cost of the land is $125,700 (= $120,000 + $4,500 + $1,200).

Example 2

Gallo Wines paid employees $1,040,000 to oversee the growing of grapes in its orchards, to harvest the grapes, and to process the grapes into wine. Depreciation on buildings and

equipment related to wine production totaled $220,000. Gallo incurred insurance, taxes, and other operating costs related to wine production of $146,000. The acquisition cost of the wine in inventory prior to commencement of aging totals $1,406,000 (= $1,040,000 + $220,000 + $146,000). Gallo Wines will increase the inventory account in later periods for costs incurred during the aging process. Note that the wine is not ready for sale, its intended use, until aging is complete.

Acquisition cost valuations are relatively reliable in that invoices, cancelled checks, and other documents evidence the amount. One valuation question that often arises concerns the costs to include in the asset amount. Should the acquisition cost of the land in Example 1 include the salaries of Red Lobster personnel engaged in selecting the site? Should the acquisition cost of the wine in Example 2 include interest on funds borrowed to finance the production of the wine? A second valuation question concerns the relevancy of acquisition cost valuations to users of the financial statements. At the time that a firm acquires an asset, acquisition cost valuations are reliably, or objectively, measured, and are the relevant valuation method to users of financial statements desiring to value a firm's assets at that time. As time passes, the acquisition cost valuation is still reliably measured but loses relevance for current users desiring to value the firm. Thus, acquisition cost valuations often require trade-offs between *reliability* and *relevance.*

Historical Value: Adjusted Acquisition Cost

The service potential of some assets, such as land, typically do not decline with usage over time and therefore remain at acquisition cost on the balance sheet. Firms consume the service potential of assets such as inventory all at once at the time of sale. The acquisition cost of the asset becomes an expense (cost of goods sold) at that time. Firms consume the service potential of assets such as buildings, equipment, license fees, and contractual rights gradually over time. Firms initially record these assets on the balance sheet at acquisition cost and then amortize or depreciate them over time in some systematic manner.

Example 3

Citicorp, a financial services firm, acquires a computer from IBM for $5 million. Citicorp expects to use the computer for five years and then to sell it for $1 million. Citicorp depreciates $4 million over the five-year useful life to the bank. It matches the remaining $1 million of book value at the end of five years against the selling price and recognizes a gain or loss for any difference.

Example 4

American Airlines acquires a regional airline in the midwestern United States for $450 million. American Airlines allocates $150 million of the purchase price to landing rights at various airports. The landing rights expire in five years. American Airlines amortizes the $150 million over the five years of usage.

Adjusted acquisition cost valuations share the advantages and disadvantages of acquisition cost valuations discussed previously. In addition, the difficulty of physically observing the consumption of service potential that results from usage makes measuring the amount of depreciation or amortization inevitably subjective. Firms must estimate the expected useful life and salvage value of the assets. Furthermore, GAAP permits firms to select from among several time-series patterns (such as straight line or accelerated) for measuring depreciation and amortization expenses.

Firms use acquisition cost valuations and adjusted acquisition cost valuations for assets that do not have fixed amounts of future cash flows. For example, nonmonetary

assets have no fixed amount of cash the firm will receive when it uses or sells these assets. Inventories; land; buildings; equipment; legal rights to use another entities' facilities, name, or distribution channels; and goodwill are examples of nonmonetary assets. When the future economic benefits (future cash flows) of an asset are uncertain, firms use acquisition cost and adjusted acquisition cost as a reliable measure of the asset's value.

Monetary assets and liabilities, on the other hand, represent amounts of cash the firm can expect to receive or pay in the future. Cash and accounts and notes receivable are monetary assets; accounts, notes, and bonds payable are examples of monetary liabilities. Firms typically value monetary assets and liabilities using present values, although GAAP permits firms to ignore the discounting process for monetary assets and liabilities due within one year. Firms might also value nonmonetary assets at the present value of expected future cash flows, as the next section discusses.

Historical Value: Present Value of Cash Flows Using Historical Interest Rates

Selling goods or services on account to customers or lending funds to others creates either an account receivable or note receivable for the selling or lending firm. Purchasing goods or services on account from a supplier or borrowing funds from others creates a liability (for example, accounts payable, notes payable, or bonds payable). Discounting the expected future cash flows under such arrangements to a present value expresses those cash flows in terms of a current cash-equivalent value. The discounting procedure might use (1) the interest rate appropriate to the particular financing arrangement at the time the firm initially enters it, referred to as the *historical interest rate,* or (2) the interest rate appropriate to the particular financing arrangement at the date of the balance sheet, referred to as the *current interest rate.* This section discusses present values based on historical interest rates. A later section on valuation methods reflecting current values discusses present values based on current interest rates.

Example 5

Sun Microsystems sells computer equipment to Sun Trust Banks. Sun Trust Banks agrees to pay Sun Microsystems $250,000 at the end of each of the next five years, pledging the equipment as collateral for the loan. An assessment of the credit standing of Sun Trust Banks at the time of the sale and of the value of the collateral suggests that 8 percent is an appropriate interest rate for this loan. The present value of $250,000 per year for five years when discounted at 8 percent is $998,178. Sun Microsystems records a note receivable and Sun Trust Banks records a note payable in the amount of $998,178. During the first year, interest on the note of $79,854 (= .08 × $998,178) increases the book value of the note, and the cash payment of $250,000 reduces the book value of the note to $828,032 (= $998,178 + $79,854 − $250,000). The book value of the note of $828,032 equals the present value of the four remaining annual cash flows of $250,000 when discounted at the historical interest rate of 8 percent.

Example 6

Sears, a department store chain, sells a refrigerator to a customer on July 1, permitting the customer to delay payment of the $500 selling price until December 31. An assessment of the credit standing of the customer suggests that 6 percent per year is an appropriate interest rate for this extension of credit. The present value of $500 when discounted back for

one-half year at 6 percent is $485.44. A strict application of the present value of cash flows valuation method results in reporting sales revenue of $485.44 on July 1 and interest revenue of $14.56 (= .06 × $^1/_2$ × $485.44) for the six-month period from July 1 to December 31. As indicated earlier, GAAP permits firms to ignore the discounting process for monetary assets and liabilities due within one year on the grounds that the financial statement effects of discounting or not discounting are not materially different.

Valuing monetary assets and liabilities at the present value of cash flows using historical interest rates is relatively reliable. The arrangement between the two entities usually specifies the required future cash flows. Some subjectivity might exist in establishing an appropriate interest rate at the time of the transaction. The borrower, for example, might choose to use the interest rate at which it could borrow on similar terms from a bank, whereas the seller might use the interest rate that would discount the preset cash flows to a present value equal to the cash selling price of the good or service sold. These small differences in interest rates usually do not result in material differences in valuation between the entities involved in the transaction.

Current Values: Current Replacement Cost

Current replacement cost is the amount a firm would have to pay currently to acquire an asset it now holds. Current replacement cost should reflect normal purchases and sales between unrelated parties, and not distressed purchases and sales in which one party holds a major advantage in setting prices.

Example 7

Refer to Example 1. Red Lobster Restaurants initially recorded the land on its books for $125,700. The land would remain on the books for this amount under the acquisition cost valuation method. Assume that real estate values in the vicinity of this tract of land increased during the next two years. A study of recent real estate transactions suggests that the current cost of purchasing this land or replacing it with similar land is now $145,700.

Example 8

Refer to Example 4. American Airlines amortizes the landing rights for one year in the amount of $30 million (= $150 million/5 years), resulting in a book value of $120 million. Assume now that a curtailment of air travel results in a decline in the replacement cost of these landing rights. A study of recent sales of landing rights suggests that the current replacement cost of landing rights with a four-year remaining life is $55 million.

Current replacement cost valuations generally reflect somewhat greater subjectivity than acquisition cost valuations. Current replacement cost valuations are least subjective and most reliable when they are based on observable market prices from recent transactions in which similar assets or liabilities have been exchanged in active markets. For example, one could obtain reliable measures of current replacement costs of raw commodities by reference to spot prices in commodities markets. When active markets do not exist, as is often the case for equipment specifically designed for a particular firm's needs, then the degree of subjectivity increases. Yet users of financial statements may find current replacement cost valuations more relevant to their needs than out-of-date acquisition cost valuations. Thus, trade-offs exist between the greater reliability of acquisition cost valuations and the greater relevance of replacement cost valuations.

Current Values: Net Realizable Value

Net realizable value is the net amount a firm would receive if it sold an asset or the net amount it would have to pay to settle a liability. As with current replacement cost valuation, net realizable value should reflect normal, instead of distressed, sales.

Example 9

Microsoft, a computer software firm, holds investments in various marketable securities of other firms. It could use the closing price of each security on the nearest trading day to the date of its balance sheet to value these securities at their net realizable value.

Example 10

Refer to Example 3. Citicorp uses the computer equipment for two years and each year records depreciation of $.8 million [= ($5 million − $1 million)/5 years]. The book value of the computer based on adjusted acquisition cost valuation is $3.4 million [= $5 million − (2 × $.8)]. Assume now that new technologies render the computer equipment partially obsolete. A study of used computer equipment offered for sale in business computer magazines indicates an average offering price for similar equipment of $2.5 million. IBM offers Citicorp $2.7 million for the equipment as a trade-in on a new, technologically superior computer. The net realizable value of the used computer likely falls in the range of $2.5 million to $2.7 million.

Using net realizable values to value assets encounters the same advantages and disadvantages as using current replacement costs. Net realizable values may provide more relevant information to users of the financial statements but result in greater subjectivity when active markets for the assets do not exist.

Current Values: Present Value of Cash Flows Using Current Interest Rates

The present value of a series of cash flows changes with the passage of time, as Example 5 illustrates. Even though the preset cash flows do not change, the present value of those cash flows will change if the interest, or discount, rate changes. The discount rate might change either because of changes in interest rates in the economy or because of a change in the credit risk of the particular borrower.

Example 11

Refer to Example 5. At the end of the first year, the note receivable on the books of Sun Microsystems and the note payable on the books of Sun Trust Banks has a book value of $828,032, which equals the present value of the remaining four payments of $250,000 when discounted at the historical interest rate of 8 percent. Assume now the market interest rate appropriate to this note declines to 6 percent. The present value of these payments at 6 percent is $866,276. These firms could revalue the receivables and payables to $866,276 to reflect the change in value caused by the change in the discount rate.

Example 12

Hilton Hotels owns a chain of hotels throughout the world. It reports these hotels at adjusted acquisition cost. Hilton Hotels could forecast the net cash flows it anticipates from each hotel in the future and discount them to a present value using current interest rates to value these hotels on its balance sheet at a current value.

Using the present value of cash flows to value a monetary asset or liability with preset cash flows is relatively reliable. Selecting the appropriate current interest rate to revalue

EXHIBIT 2.1

Summary of Valuation Methods for Various Assets and Liabilities

Historical Values

- Acquisition Cost: Prepayments, Land, Intangibles with Indefinite Lives, Goodwill
- Adjusted Acquisition Cost: Buildings, Equipment and Other Depreciable Assets, Intangibles with Limited Lives
- Present Value of Cash Flows Using Historical Interest Rates: Investments in Bonds Held to Maturity, Long-Term Receivables and Payables. This valuation method in theory applies to current receivables and payables, but GAAP ignores the discounting process on the grounds that discounted and undiscounted cash flows do not result in materially different valuations.

Fair Values (current market price or present value of cash flows using current interest rates)

- Investments in Marketable Equity Securities
- Investments in Debt Securities Classified as either Trading Securities or Securities Available for Sale
- Financial Instruments and Derivative Instruments Subject to Hedging Activities
- Assets and Liabilities of a Business Acquired Using the Purchase Method
- Assets and Liabilities of a Business to Be Discontinued

Combination of Values

- Lower of Cost or Market for Inventories
- Lower of Cost or Fair Value for Assets Experiencing an Asset Impairment

the monetary item each period entails a degree of subjectivity. Valuing nonmonetary assets, such as the hotels of Hilton Hotels in Example 12, entails considerable subjectivity. Unlike the case for a monetary asset, the cash flows for a nonmonetary asset are not preset. The accountant must forecast the timing and amount of the expected cash flows for some number of years into the future. The accountant must also revalue the asset each period for either changes in expected cash flows or changes in the discount (interest) rate.

GAAP Valuations

GAAP does not utilize a single valuation method for all assets and liabilities. Instead, GAAP stipulates that firms use historical values for some assets and liabilities, and current, or fair, values for other assets and liabilities. GAAP uses the term *fair value* instead of current value. When GAAP requires firms to use fair value for an asset or liability, firms can measure fair value using either current replacement cost or net realizable value. If markets are not sufficiently active to provide reliable evidence of fair value, then firms can use present value of cash flows, with current interest rates used as the discount rate, to approximate fair value.[1] GAAP has increasingly required use of fair values in the valuation of certain assets and liabilities in recent years. Exhibit 2.1 summarizes the use of

[1]Financial Accounting Standards Board, *Statement of Financial Accounting Concepts No. 7,* "Using Cash Flow Information and Present Value Accounting Measurement" (February 2000).

these valuations methods for various assets and liabilities, which later chapters discuss more fully.

INCOME RECOGNITION

The income statement reports the earnings from a firm's operating activities for a period of time, as well as any gains or losses realized from investing activities (for example, sale of fixed assets at a gain or loss) and financing activities (for example, retirement of debt before maturity at a gain or loss). Net income equals revenues and gains minus expenses and losses. In an ideal world, net income for a period would equal all changes in economic value during that period. Users of the financial statements would then forecast future value changes, using the current period's value changes as a base to value the shareholders' equity of a firm. Unfortunately, many of the changes in economic value of the assets and liabilities of a firm during the period are unobservable.

GAAP recognizes, therefore, that the measurement of value changes often requires trade-offs between the relevance of value changes to the user and the reliability of those measurements. The preceding section discussed the types of judgments often required to value assets and liabilities using current values. GAAP treats value changes in one of three ways:

Treatment 1: Recognize value changes on the balance sheet and the income statement when they are realized in a market transaction (that is, when a firm sells an asset or pays a liability).

Treatment 2: Recognize value changes on the balance sheet when the value changes occur over time but recognize them in net income when they are realized in a market transaction.

Treatment 3: Recognize value changes on the balance sheet and the income statement when they occur over time, even though they are not yet realized in a market transaction.

Exhibit 2.2 summarizes these three treatments, which the following sections discuss. An important guiding principle in asset/liability valuation and income measurement is as follows:

EXHIBIT 2.2

Treatment of Fair Value Changes

	Recognized in the Indicated Financial Statement When Fair Value Change Is Realized	Recognized in the Indicated Financial Statement When Fair Value Change Occurs
Balance Sheet	Treatment 1	Treatment 2 Treatment 3
Income Statement	Treatment 1 Treatment 2	Treatment 3

Over sufficiently long time periods, net income equals cash inflows minus cash outflows, other than cash flows with owners (for example, issuing or repurchasing common stock, paying dividends). Asset and liability valuation and income measurement merely affect when and how the financial statements report these value changes. All value changes eventually affect net income and retained earnings.

Treatment 1: Value Changes Recognized on the Balance Sheet and Income Statement When Realized

The traditional accounting model rests on the realization convention for the recognition of revenues and gains, and the matching convention for the recognition of expenses and losses. Firms typically recognize revenues when they receive cash, a receivable, or some other asset subject to reasonably reliable measurement from a customer for goods sold or services performed. The receipt of this asset validates the amount of the value change. Accountants characterize the firm as having realized the value change. Accountants match all costs incurred to create and sell the good or service as expenses against this revenue. The objective is to match inputs with outputs and thereby measure the net value change, or incremental value added.

Delaying the recognition of value changes for assets and liabilities until realized means that the balance sheet reports assets and liabilities at historical values. Note that realization of the value change is the driver for recognition on both the balance sheet and the income statement under Treatment 1. The receipt or disbursement of cash is not a requirement for either realization or matching. Because the cash flows may precede, coincide with, or follow the value change, the balance sheet reports various accruals (such as accounts receivable, accounts payable, or prepayments).

Example 13

Refer to Example 2 for Gallo Wines. The firm accumulates various costs of producing the wine in its inventory account while the aging occurs. When Gallo Wines completes the aging and sells the wine, it recognizes the value increase in both its assets and its net income. Assume that Gallo Wines incurs total costs of processing and aging the wine of $1,600,000 (= $1,406,000 for the initial processing and $194,000 for aging) and sells the wine at the completion of the aging for $2,000,000 on account. Gallo Wines reports inventories on its balance sheet each year during aging at the accumulated acquisition cost, even though the current value of the wine likely exceeds the accumulated acquisition cost. At the time of sale to a customer, Gallo Wines receives an account receivable of $2,000,000 and gives inventory with a book value of $1,600,000 in exchange. The firm realizes and recognizes revenues of $2,000,000 and matches the accumulated cost of goods sold of $1,600,000 against the revenue to report the net value increase of $400,000 in net income. Assets on the balance sheet increase by a corresponding $400,000 (= $2,000,000 increase in accounts receivable offset by a $1,600,000 decrease in inventories).

Example 14

Refer to Example 7. Red Lobster reports the land on the balance sheet at $125,700, its acquisition cost, as long as the firm continues to hold it. Suppose that Red Lobster decides to sell the land two years after acquiring it for $145,700 in cash. The firm recognizes the $20,000 value increase in its assets (= $145,700 increase in cash minus the $125,700 decrease in land) and simultaneously reports a gain on sale of the land of $20,000 in net income. Firms typically report the income from sales of assets peripheral

to their main business as a net amount, $20,000, instead of showing the selling price of $145,700 as revenue and the cost of the asset sold of $125,700 as an expense. In contrast, income from a firm's principal business activities appears as gross amounts. Gallo Wines in Example 13 reports revenue of $2,000,000 and expense for the cost of goods sold of $1,600,000 because selling wines is its primary business.

Treatment 2: Value Changes Recognized on the Balance Sheet When They Occur but Recognized in Net Income When Realized

The traditional accounting model follows Treatment 1 and delays the recognition of value changes of assets and liabilities until a market transaction validates their amounts (that is, realization occurs). The value changes of some assets and liabilities are of particular interest to users and are measurable with a sufficiently high degree of reliability that GAAP requires firms to revalue them to fair value each period. GAAP recognizes, however, that the value change is *unrealized* until the firm sells the asset or settles the liability. The ultimate *realized* gain or loss will likely differ from the unrealized gain or loss each period. GAAP therefore requires firms to delay including the gain or loss in net income until realization of the gain or loss occurs. In the meantime, the firm must include the unrealized gain or loss arising in each period in Other Comprehensive Income and the cumulative unrealized gain or loss in Accumulated Other Comprehensive Income. Recall from Chapter 1 that Accumulated Other Comprehensive Income is a balance sheet account appearing in shareholders' equity. Accumulated Other Comprehensive Income changes each period by the amount of Other Comprehensive Income for the period. Only at the time of realization of the value change will the firm include the realized gain or loss in net income. The firm must simultaneously remove any amounts in Accumulated Other Comprehensive Income related to the asset or liability. Accumulated Other Comprehensive Income serves as a "holding tank" for value changes recognized for assets and liabilities but not yet for net income.

Example 15

Refer to Example 9. Assume that Microsoft has cash in excess of its near-term needs. Rather than allow the cash to remain in its bank account, Microsoft purchases marketable equity securities costing $4,500,000. The fair value of these securities on December 31 is $4,900,000. Microsoft intends to sell these securities when it needs cash. The current fair value of these securities is likely of more interest to users of the firm's financial statements than acquisition cost. The ready market for these securities provides reliable evidence of their fair value.

GAAP requires Microsoft to revalue the securities to fair value and recognize an unrealized holding gain of $400,000 in Other Comprehensive Income. Thus, assets increase by $400,000 and shareholders' equity increases by $400,000.

Next, suppose that Microsoft sells the securities in early June of the following year for $5,000,000. The firm recognizes a realized gain on sale in net income of $500,000 (= $5,000,000 − $4,500,000). It must also eliminate the $400,000 unrealized gain from Accumulated Other Comprehensive Income. Thus, assets increase by $100,000 (cash increases by $5,000,000 and marketable securities decrease by $4,900,000) and shareholders' equity increases by $100,000 (net income causes retained earnings to increase by $500,000, and Accumulated Other Comprehensive Income decreases by $400,000). Chapter 9 discusses the accounting for marketable securities more fully.

Example 16

Ford Motor Company operates in Europe through its subsidiary, Ford Europe. Ford Europe keeps its accounts in euros each period. Ford Motor Company must translate these euro amounts into their U.S. dollar equivalent amounts each period in order to prepare consolidated financial statements for the two entities. As the exchange rate between the U.S. dollar and the euro changes each period, the U.S. dollar equivalent of the euro-measured assets and liabilities of Ford Europe changes.

GAAP requires firms in most circumstances to use the current exchange rate on the date of the balance sheet to translate the assets and liabilities of foreign entities into U.S. dollars. The U.S. parent will not realize the economic effect of the value change, however, until the foreign unit remits cash to the parent and the parent converts the euro cash into U.S. dollars. GAAP therefore does not permit firms to flow through the unrealized foreign exchange gain or loss to net income immediately. Instead, firms must include the unrealized gain or loss in Other Comprehensive Income for the period. Later, when Ford Motor Company makes a currency conversion with the cash received, it realizes an exchange gain or loss and includes it in net income. It simultaneously reduces Accumulated Other Comprehensive Income for a portion of the unrealized gain or loss recognized in earlier periods. Chapter 9 discusses the accounting for foreign entities more fully.

Treatment 3: Value Changes Recognized on the Balance Sheet and the Income Statement When They Occur

The third possibility is that firms revalue assets and liabilities to fair value each period and recognize the unrealized gains and losses in net income in that same period. GAAP generally does not permit firms to revalue assets upward for value increases and recognize the unrealized gain in net income. Firms must await the validation of the value increase through a market transaction (that is, realization) to justify recognizing the gain.

GAAP, however, is not symmetric with value increases and decreases. Firms must generally write down assets whose fair values decrease below their book values and flow through the value decrease to net income immediately. This asymmetric treatment of gains and losses rests on the conservatism convention. Given the judgments often required in measuring net income, GAAP is more concerned that firms not overstate net income than that they understate it.

Example 17

Refer to Example 8. At the end of the first year after their acquisition, the landing rights of American Airlines have a book value of $120 million and a fair value of $55 million. The decrease in air travel results in an impairment in the value of the landing rights of $65 million (= $120 million − $55 million). American Airlines must write down the value of the landing rights and recognize an asset impairment loss of $65 million on its income statement. Thus, assets and shareholders' equity decrease by $65 million. It must recognize this loss even though the firm has not realized the loss in a market transaction. Chapter 6 discusses asset impairment losses more fully.

Example 18

Refer to Example 10. The book value of the computer equipment on Citicorp's books is $3,400,000. Assume that the fair value of the equipment is $2,600,000 as a result of

technological obsolescence. GAAP requires Citicorp to write down the computer to $2,600,000 and recognize an asset impairment loss of $800,000 (= $3,400,000 − $2,600,000). Thus, assets and shareholders' equity decrease by $800,000.

Example 19

Refer to Example 11. Recall that the present value of the note payable on the books of Sun Trust Banks is $828,032 based on the historical interest rate of 8 percent. The decrease in interest rates to 6 percent results in an increase in the fair value of the note to $866,276. GAAP generally does not permit firms to revalue financial instruments to market value to reflect changes in interest rates. However, Sun Trust Banks may wish to repay the note prior to maturity. Sun Microsystems, the holder of the note, will likely set a price for earlier repayment that reflects current market interest rates at the time of repayment. For example, Sun Microsystems would probably require Sun Trust Banks to pay $866,276 to repay the note at this time if interest rates have declined to 6 percent.

Sun Trust Banks may obtain a hedging contract, referred to as a derivative, from another entity that protects the net amount Sun Trust Banks must pay to retire the debt prior to maturity. When firms acquire derivatives to hedge changes in value of a financial instrument, GAAP requires the firms to revalue both the financial instrument and the derivative to fair value each period and recognize unrealized gains and losses in net income immediately. In this example, Sun Trust Banks writes up the note payable from $828,032 to $866,276 and recognizes a loss in net income for the difference, $38,244. It would also revalue the derivative, which in this case is an asset. If the derivative perfectly hedges the change in interest rates, it will increase in value by $38,244 as well. Sun Trust Banks increases the derivative asset and recognizes a gain of $38,244. If the hedge is not perfectly effective, the gain and loss will not precisely offset and net income will increase or decrease for the difference (net of any tax effect). Chapter 8 discusses the accounting for financial instruments and derivatives. The discussion there indicates that not all unrealized gains and losses immediately flow through to net income, but instead may first flow through Other Comprehensive Income.

Summary of Asset and Liability Valuation and Income Recognition

The traditional accounting model relies mostly on historical values for assets and liabilities, and the realization and matching conventions for income recognition (Treatment 1). In this model, asset and liability valuation directly link to income measurement. Standard-setting bodies have increasingly required the use of fair values in the valuation of certain assets and liabilities in recent years. Some of these value changes (generally, declines in asset values) affect net income immediately (Treatment 3). GAAP invokes the conservatism convention to justify recognition of value declines but not value increases. Other value changes affect asset and liability amounts before they affect net income (Treatment 2). In the intervening time, firms park the unrealized gains and losses in Accumulated Other Comprehensive Income. When the firm realizes the value change, it reclassifies the unrealized gains and losses from Accumulated Other Comprehensive Income to net income. GAAP has not yet evolved to the point of providing a sufficient conceptual rationale for these three different approaches to asset and liability valuation and income measurement to permit the user of financial statements to anticipate, apart from prescribed GAAP, how firms account for any particular transaction. Given the trade-offs between reliability and relevance often encountered in setting GAAP for particular assets

and liabilities and the different preferences and concerns of the various constituencies involved in the standard-setting process, obtaining agreement on a single valuation approach in the near future seems unlikely.

ACCOUNTING FOR INCOME TAXES

The discussion thus far in this chapter has considered the measurement of revenues, gains, expenses, and losses before considering any income tax effects. Income taxes affect virtually every transaction in which a firm engages. Consider the following examples:

- American Airlines in Example 17 and Citicorp in Example 18 must recognize impairment losses for financial reporting as the fair values of their assets decline. These firms cannot deduct such losses immediately for tax purposes, but instead must continue to depreciate or amortize them over time. Thus, GAAP and the income tax law treat these decreases in value differently.
- Microsoft in Example 15 includes the $400,000 increase in fair value of marketable equity securities in Other Comprehensive Income. The firm will report the effect of any value changes in taxable income only when it sells the securities. Should Microsoft recognize any income tax expense now on the $400,000 of Other Comprehensive Income?
- Ford Motor Company in Example 16 must include unrealized foreign exchange gains and losses in Other Comprehensive Income. The firm will not include such gains and losses in taxable income until the foreign unit remits cash to the parent company. If the foreign unit intends to reinvest its earnings permanently, then it may never pay a dividend to its parent. When and how much income tax expense should Ford Motor Company recognize on the unrealized foreign exchange gain or loss?

Thus, in order to fully understand business transactions, we need to understand their income tax effects. Before discussing various financial reporting topics in Chapters 6 to 9, we need an overview of the required accounting for income taxes under GAAP. Chapter 8 discusses the accounting for income taxes more fully.

Overview of Income Tax Accounting

Income taxes affect the analysis of a firm's profitability (income tax expense is a subtraction in computing net income) and its cash flows (income taxes paid are an operating use of cash). Income tax expense for a period does not necessarily equal income taxes payable for that period. The balance sheet recognizes the difference between the two amounts as a deferred tax asset or a deferred tax liability.

A simple example illustrates the issues in accounting for income taxes. Exhibit 2.3 sets forth information for a firm for its first two years of operations. The first column for each year shows the amounts reported to shareholders (referred to as "book amounts" or "financial reporting"). The second column shows the amounts reported to income tax authorities (referred to as "tax amounts" or "tax reporting"). The third column indicates the effect of each item on cash flows. Assume for this example and those throughout this chapter that the income tax rate is 40 percent. Additional information on each item is as follows:

- Sales Revenue: The firm reports sales of $500 each year for both book and tax reporting. We assume that it collects the full amount each year in cash (that is, the firm has no accounts receivable).

- Interest Revenue on Municipal Bonds: The firm earns $25 of interest on municipal bonds. The firm includes this amount in its book income. The federal government does not subject interest on state and municipal bonds to taxation, so we exclude this amount from the computation of taxable income. We assume that the firm receives the full amount of interest revenue in cash each year.
- Depreciation Expense: The firm has equipment costing $120 with a two-year life. It depreciates the equipment using the straight-line method for financial reporting, recognizing $60 of depreciation expense on its books each year. Income taxing authorities permit the firm to write off a larger portion of the asset's cost in the first year, $80, than the straight-line method. Because total depreciation over the life of an asset cannot exceed acquisition cost, the firm recognizes only $40 of depreciation for tax reporting in the second year.
- Warranty Expense: The firm estimates that the cost of providing warranty services on products sold equals 2 percent of sales. It recognizes warranty expense of $10 (= .02 × $500) each year for financial reporting, which matches the estimated cost of warranties against the revenue from the sale of products subject to warranty. Income tax laws do not permit firms to claim a deduction for warranties in computing taxable income until they make cash expenditures to provide warranty services. We assume that the firm incurs cash costs of $4 in the first year and $12 in the second year.
- Other Expenses: The firm incurs and pays in cash other expenses of $300 each year.
- Income before Taxes and Taxable Income: Income before taxes for financial reporting is $155 each year. Taxable income is $116 in the first year and $148 in the second year.

EXHIBIT 2.3

Illustration of the Effects of Income Taxes on Net Income, Taxable Income, and Cash Flows

	First Year			Second Year		
	Book Amounts	Tax Amounts	Cash Flow Amounts	Book Amounts	Tax Amounts	Cash Flow Amounts
Sales Revenue	$500	$500	$500	$500	$500	$500
Interest on Municipal Bonds	25	—	25	25	—	25
Depreciation Expense	(60)	(80)	—	(60)	(40)	—
Warranty Expense	(10)	(4)	(4)	(10)	(12)	(12)
Other Expenses	(300)	(300)	(300)	(300)	(300)	(300)
Net Income before Taxes or Taxable Income	$155	$116		$155	$148	
Income Tax Expense or Payable	(52)	(46.4)	(46.4)	(52)	(59.2)	(59.2)
Net Income	$103			$103		
Depreciation Addback	60			60		
Change in Warranty Liability	6			(2)		
Change in Deferred Taxes	5.6			(7.2)		
Cash Flow from Operations	$174.6		$174.6	$153.8		$153.8

Income before taxes for financial reporting differs from taxable income for two principal reasons:

1. **Permanent Differences:** Revenues and expenses that firms include in net income to shareholders but that never appear in the income tax return. Interest revenue on the municipal bond is a permanent difference.
2. **Temporary Differences:** Revenues and expenses that firms include in both net income to shareholders and taxable income but in different periods. Depreciation expense is a temporary difference. The firm recognizes total depreciation of $120 over the life of the equipment for both financial and tax reporting but in a different pattern over time. Warranty expense is likewise a temporary difference. The firm recognizes $20 of warranty expense over the two-year period for financial reporting. It recognizes only $16 over the two-year period for tax reporting. If the firm's estimate of total warranty costs turns out to be correct, then the firm will recognize the remaining $4 of warranty expense for tax reporting in future years as it provides warranty services.

A central conceptual question in accounting for income taxes concerns the measurement of income tax expense on the income statement for financial reporting:

1. Should the firm compute income tax expense based on book income before taxes ($155 for each year in Exhibit 2.3)?
2. Should the firm compute income tax expense based on book income before taxes but excluding permanent differences ([$130 = $155 − $25] for each year in Exhibit 2.3)?
3. Should the firm compute income tax expense based on taxable income ($116 in the first year and $148 in the second year in Exhibit 2.3)?

Standard-setting bodies require firms to follow the second approach. Income tax expense is not simply the amount of income taxes currently payable (the third approach). Firms must also recognize the benefit of future tax deductions and the obligations related to future taxable income that arise because of temporary differences. The underlying concept is matching: matching income tax expense with the income reported for financial reporting, even though the associated cash flows for income taxes will not occur until future periods.

Permanent differences do not affect taxable income or income taxes paid in any year. Because total expenses over sufficiently long time periods must equal the related cash outflows, firms never recognize income tax expense or income tax savings on permanent differences (the first approach). Thus, income tax expense is $52 (= .40 × $130) in each year.

The firm makes the following entry to recognize income tax expense in the first year:

Income Tax Expense (.40 × $130)	52.0	
Deferred Tax Asset—Warranty (.40 × $6)	2.4	
Deferred Tax Liability—Depreciation (.40 × $20)		8.0
Income Taxes Payable (.40 × $116)		46.4

The deferred tax asset measures the future tax saving that the firm will realize when it provides warranty services in future years and claims a tax deduction on products sold in the first year. The firm expects to incur $6 (= $10 − $4) of warranty costs in the second and later years. When it incurs these costs, it will reduce its taxable income and reduce

income taxes payable for the year. For financial reporting, the firm follows the matching principle and recognizes all of the $10 expected costs of providing warranty services on products sold during the first year.

The deferred tax liability measures the income taxes saved in the first year as a result of recognizing $20 more depreciation for tax purposes than for financial reporting purposes, taxes that the firm must pay in the second year when it recognizes $20 less depreciation for tax reporting than for financial reporting.

Now consider the effect on cash flows. The third column for each year in Exhibit 2.3 shows that the increases and decreases in cash net to $174.6 for the first year. This reporting format follows the direct method of computing cash flow from operations. As Chapter 3 discusses more fully, most firms report cash flow from operations using the *indirect method*. The indirect method begins with net income and then adjusts that amount to compute cash flow from operations.

The lower portion of the book income amounts in the first column of Exhibit 2.3 demonstrates the calculation of cash flow from operations for the indirect method. Depreciation is an expense that does not use cash, so we add back the $60 of depreciation recognized for book purposes to offset its subtraction in measuring net income. The firm recognized warranty expense of $10 in measuring net income but used only $4 of cash in satisfying warranty claims. The firm adds back the $6 difference, which is the credit change in the warranty liability account during the period. The warranty liability account begins with a zero balance and ends the year with a balance of $6 (= $10 − $4). Likewise, the firm recognized $52 of income tax expense in measuring net income but used only $46.4 cash for income taxes. The firm adds back the $5.6 difference, which is the net credit change in the Deferred Tax Asset ($2.4 debit change) and Deferred Tax Liability ($8 credit change) accounts (see the preceding journal entry).

The firm makes the following entry in the second year to recognize income tax expense:

Income Tax Expense (.40 × $130)	52.0	
Deferred Tax Liability—Depreciation (.40 × $20)	8.0	
Deferred Tax Asset—Warranty (.40 × $2)		.8
Income Tax Payable (.40 × $148)		59.2

The temporary difference related to depreciation completely reversed in the second year, so the firm reduces the deferred tax liability to zero, which increases income taxes currently payable by $8. The temporary difference related to the warranty partially reversed during the second year, but the firm created additional temporary differences in that year. For the two years as a whole, warranty expense for financial reporting of $20 (= $10 + $10) exceeds the amount recognized for tax reporting of $16 (= $4 + $12). Thus, the firm will recognize tax savings of $1.6 (= .4 × $4) in future years. The deferred tax asset had a balance of $2.4 at the end of the first year. The entry for the second year reduces the balance in the deferred tax assets by $.8 (= $2.4 − $1.6) for the net tax benefit realized during that year.

Now consider the cash flow effects for the second year. Cash flow from operations is $153.8. The firm again adds back to net income depreciation expense of $60. The firm recognized warranty expense of $10 for financial reporting but used $12 of cash to satisfy warranty claims. It subtracts the additional $2 of cash used in excess of the expense. The $2 subtraction also equals the debit change in the warranty liability accounting during the second year, as the following analysis shows:

Warranty Liability, beginning of second year	$ 6
Warranty Expense, second year	10
Warranty Claims, second year	(12)
Warranty Liability, end of second year	$ 4

The firm recognized $52 of income tax expense but used $59.2 of cash for income taxes. The additional $7.2 of cash used to pay taxes in excess of the tax expense reduced the net deferred tax liability position. The $7.2 subtraction also equals the net debit change in the Deferred Tax Asset ($.8 credit change) and Deferred Tax Liability ($8 debit change) during the second year, as the following analysis shows:

Net Deferred Tax Liability, beginning of second year ($8 − $2.4)	$ 5.6
Income Tax Expense, second year	52.0
Income Taxes Payable, second year	(59.2)
Net Deferred Tax Asset, end of second year	$(1.6)

Measuring Income Tax Expense: A Bit More to the Story

The preceding illustration followed what we might term an *income statement approach* to measuring income tax expense. We compared revenues and expenses recognized for book and tax purposes, eliminated permanent differences, and then computed income tax expense based on book income before taxes excluding permanent differences. *Financial Accounting Standards Board Statement 109,*[2] however, requires firms to follow a *balance sheet approach* when computing income taxes expense. We describe this approach next.

1. Identify at each balance sheet date all differences between the book basis of assets, liabilities, and tax loss carryforwards (that is, the book values for financial reporting) and the tax basis of assets, liabilities, and tax loss carryforwards. Tax loss carryforwards represent net losses incurred in one year that the income tax law allows a firm to carry forward to offset positive taxable income in future years and thereby reduce taxes otherwise payable in those future years. In the preceding illustration, the book basis of the equipment at the end of the first year is $60 (= $120 − $60) and the tax basis is $40 (= $120 − $80). The book and tax basis are zero at the end of the second year. The book basis of the warranty liability at the end of the first year is $6 (= $10 − $4) and the tax basis is zero (that is, the firm recognizes a deduction for tax purposes when it pays warranty claims and therefore has no liability on its tax books). The book basis of the warranty liability at the end of the second year is $4 (= $6 + $10 − $12) and the tax basis is zero.
2. Eliminate differences from step 1 that will not have a future tax consequence (that is, permanent differences). Assume, for example, that the firm in the preceding illustration had not received the $25 of interest on the municipal bond investment by the end of the first year. It would show an Interest Receivable on its financial reporting books of $25, but no receivable would appear on its tax books. Because

[2]Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 109,* "Accounting for Income Taxes" (1992).

the tax law does not tax such interest, the difference between the book and tax basis is a permanent difference. The firm would eliminate this book/tax difference before moving to the next step.

3. Separate the remaining differences into those that give rise to future tax deductions and those that give rise to future taxable income. Exhibit 2.4 summarizes the possibilities and gives several examples of these temporary differences, as later chapters discuss. The difference between the book basis ($6) and the tax basis ($0) of the warranty liability at the end of the first year gives rise to future tax deductions. The difference between the book basis ($60) and the tax basis ($40) of the equipment at the end of the first year gives rise to future taxable income. Multiply differences that give rise to future tax deductions by the enacted marginal tax rate expected to apply in those future periods. The result is a deferred tax asset. The deferred tax asset related to warranties at the end of the first year is $2.4 [= .4 × ($6 − $0)]. Multiply differences that give rise to future taxable income by the enacted marginal tax rate expected to apply in those future periods. The result is a deferred tax liability. The deferred tax liability related to the equipment at the end of the first year is $8 [= .4 × ($60 − $40)]. A firm may have recognized net losses in its income statement for financial reporting that the firm cannot then recognize for tax reporting. It can carry forward this net loss and offset taxable income of future years, thereby saving taxes. The firm includes the tax effect of tax loss carryforwards (reduce future taxable income) and tax credit carryforwards (reduce future taxes payable) in deferred tax assets at each balance sheet date.

EXHIBIT 2.4

Examples of Temporary Differences

	Assets	**Liabilities**
Future Tax Deduction (*results in deferred tax assets*)	Tax Basis of Assets Exceeds Financial Reporting Basis[a]	Tax Basis of Liabilities is Less than Financial Reporting Basis[b]
Future Taxable Income (*results in deferred tax liabilities*)	Tax Basis of Assets is Less than Financial Reporting Basis[c]	Tax Basis of Liabilities Exceeds Financial Reporting Basis[d]
	Examples	

[a]Accounts receivable using the direct charge-off method for uncollectible accounts for tax purposes exceeds accounts receivable (net) using the allowance method for financial reporting.

[b]Tax reporting does not recognize an estimated liability for warranty claims (firms can deduct only actual expenditures on warranty claims), whereas firms must recognize such a liability for financial reporting to match warranty expense with sales revenue in the period of sale.

[c]Depreciation computed using accelerated depreciation for tax purposes and the straight-line method for financial reporting.

[d]Leases recognized by a *lessee*, the user of the leased assets, as a capital lease for tax reporting and an operating lease for financial reporting.

4. Assess the likelihood that the firm will realize the benefits of deferred tax assets in the future. This assessment should consider the nature (whether cyclical or noncyclical, for example) and characteristics (growing, mature, or declining, for example) of a firm's business and its tax planning strategies for the future. If realization of the benefits of deferred tax assets is "more likely than not" (that is, exceeds 50 percent), then deferred tax assets equal the amounts computed in step 3. If it is more likely than not that the firm will not realize some or all of the deferred tax assets, then the firm must reduce the deferred tax asset for a valuation allowance (similar in concept to the allowance for uncollectible accounts receivable). The valuation allowance reduces the deferred tax assets to the amounts the firm expects to realize by way of reduced taxes in the future. Assume that the firm in the preceding illustration considers it more likely than not that it will realize the tax benefits of the deferred tax assets related to warranties and therefore recognizes no valuation allowance.

The result of this four-step procedure is a deferred tax asset and a deferred tax liability at each balance sheet date. The amounts in the preceding illustration are as follows:

	January 1, First Year	December 31, First Year	December 31, Second Year
Deferred Tax Asset—Warranties	$0	$ 2.4	$1.6
Deferred Tax Liability—Equipment	0	8.0	0.0
Net Deferred Tax Asset (Liability)	$0	$(5.6)	$1.6

Income tax expense for each period equals:

1. income taxes currently payable on taxable income,
2. plus a credit change in the net deferred tax asset and liability, or minus a debit change in the net deferred tax asset and liability.

Income tax expense in the preceding illustration is:

	First Year	Second Year
Income Taxes Currently Payable on Taxable Income	$46.4	$59.2
Plus Credit Change in Net Deferred Tax Asset and Liability	5.6	—
Minus Debit Change in Net Deferred Tax Asset and Liability	—	(7.2)
Income Tax Expense	$52.0	$52.0

The income statement approach illustrated in the first section and the balance sheet approach illustrated in this section yield identical results whenever (1) enacted tax rates applicable to future periods do not change, and (2) the firm recognizes no valuation allowance on deferred tax assets. Legislated changes in tax rates applicable to future periods will cause the tax effects of previously recognized temporary differences to differ

from the amounts in the deferred tax asset and deferred tax liability accounts. The firm revalues the deferred tax assets and liabilities for the change in tax rates and flows through the effect of the change to income tax expense in the year of the legislated change. A change in the valuation allowance for deferred tax assets likewise flows through immediately to income tax expense.

Reporting Income Taxes in the Financial Statements

Firms may not include all income taxes for a period on the line for income tax expense in the income statement. Some amounts may appear elsewhere:

1. Discontinued Operations and Extraordinary Items: Firms with either of these categories of income for a particular period report them in separate sections of the income statement, each net of their income tax effects. Thus, income tax expense reflects income taxes on income from continuing operations only.
2. Other Comprehensive Income: Unrealized changes in the market value of marketable equity securities classified as "available for sale," unrealized changes in the market value of hedged financial instruments and derivatives classified as cash flow hedges, unrealized foreign translation adjustments, and changes in the minimum pension liability appear in Other Comprehensive Income, net of their tax effects. These items almost always give rise to deferred tax assets or deferred tax liabilities because the income tax law includes such gains and losses in taxable income when realized in a market transaction. Thus, a portion of the change in deferred tax assets and liabilities on the balance sheet does not flow through income tax expense on the income statement.

PepsiCo's Reporting of Income Taxes

PepsiCo reports information on income taxes in Note 5, "Income Taxes," to its financial statements (Appendix A), excerpts of which appear in Exhibit 2.5. Income tax expense for Year 4 of $1,372 million includes $1,355 million currently payable and $17 million deferred. Thus, excluding permanent differences, PepsiCo's income for financial reporting exceeded its taxable income for Year 4. For Year 3, income taxes currently payable exceeded income tax expense, suggesting that its taxable income exceeded its income for financial reporting.

PepsiCo's deferred tax liabilities exceed its deferred tax assets, for a net deferred tax liability. The change in the net deferred tax liability for Year 4 is $33 million (= $987 − $954). This amount exceeds the $17 million of deferred tax expense for Year 4. Some of the remaining difference of $16 million (= $33 − $17) likely relates to amounts reported in Other Comprehensive Income. PepsiCo's Note 13, "Accumulated Other Comprehensive Income" (Appendix A), indicates that it recognizes income taxes on cash flow hedges and the minimum pension liability adjustment. Some of the difference also likely relates to the tax benefit of discontinued operations.

Note from Exhibit 2.5 that PepsiCo recognized a valuation allowance on its deferred tax assets of $438 million at the end of Year 3 and $564 million at the end of Year 4. The change in the valuation allowance affects the change in the net deferred tax liability and therefore the amount of income tax expense. It is likely that the valuation allowance relates primarily to the deferred tax assets for net operating loss carryforwards, which is one of the items for which PepsiCo recognized a deferred tax asset (see Note 5 to PepsiCo's financial statements in Appendix A).

EXHIBIT 2.5

Excerpts from PepsiCo's Note 5 on Income Taxes
(amounts in millions)

Income Statement for Year:	Year 4	Year 3	Year 2
Provision for income taxes—continuing operations:			
Current	$1,355	$1,747	$1,259
Deferred	17	(323)	174
Total	$1,372	$1,424	$1,433
Balance Sheet at End of Year:			
Deferred tax liabilities (details omitted)	$2,732	$2,592	
Deferred tax assets (details omitted)	$2,309	$2,076	
Valuation allowances.	(564)	(438)	
Deferred tax assets, net	$1,745	$1,638	
Net deferred tax liabilities.	$ 987	$ 954	

We will return to our study of income taxes in Chapter 8 to explore in greater depth the concepts and procedures of accounting for income taxes.

FRAMEWORK FOR ANALYZING THE EFFECTS OF TRANSACTIONS ON THE FINANCIAL STATEMENTS

Each period, firms prepare financial statements that aggregate and summarize the results of numerous transactions. This section presents and illustrates an analytical framework for understanding the effects of various transactions on the financial statements.

One might legitimately ask the question: Why do I need to understand individual transactions when my concern is the analysis of financial statements as a whole? After all, firms engage in millions of transactions during the year, with no single transaction likely having a material effect on the financial statements. The response to this question is twofold.

First, one must understand the effects of the numerous similar, repetitive transactions that dominate balance sheet and income statement amounts in order to make appropriate interpretations about a firm's profitability and risk. Consider the following examples from recent annual reports of several publicly traded corporations.

Example 20

PepsiCo combines various ingredients to produce syrup for its soft drinks. It sells the syrup to its bottlers, who add water and other ingredients to manufacture the finished soft drink and then bottle it. PepsiCo owns approximately 40 percent of the common stock of its bottlers, with individuals and other entities owning the remainder. What is the effect on PepsiCo's net income when it sells syrup to its bottlers? Should it recognize

revenue immediately in an amount equal to the selling price of the syrup, the same as it would if it sold the syrup to nonaffiliated bottlers? Or should PepsiCo delay the recognition of revenue until the bottlers manufacture and sell soft drinks to customers? Should PepsiCo include all of the assets and liabilities of the bottlers in its balance sheet, a proportion of the assets and liabilities equal to its ownership percentage, or none of these assets and liabilities? How would the analysis of PepsiCo's profitability and risk differ depending on PepsiCo's accounting method for transactions with its bottlers?

Example 21

Xerox Corporation sells photocopying machines, photographic paper, and after-sale maintenance services in a bundled package to customers on a multiyear installment payment plan. Xerox generates four types of income from this activity: (1) manufacturing income from selling the machines for more than their manufacturing cost, (2) income from selling photographic paper for more than the cost of that paper to Xerox, (3) maintenance income from providing services over the life of the maintenance contract, and (4) interest income from providing financing services over the life of the installment sales contract. What is the impact on total assets and net income each year if Xerox attributes too much of the cash it will receive to the manufacturing activity and too little to the maintenance services? What is the impact on total assets and net income each year if Xerox uses a discount rate of 7 percent instead of 8 percent to discount the cash flows to their present value? What amount, if any, will appear among liabilities related to Xerox's obligation under the maintenance agreement?

Example 22

Enron entered into multiyear contracts to purchase and sell energy products at preset prices. To neutralize the risk of price changes during the term of the contracts, Enron also sold and purchased financial instruments, called derivatives. Enron created variable interest entities (VIEs), to which it transferred some of these energy contracts and derivatives in return for an equity interest. The VIEs also obtained equity capital from other investors. GAAP does not require firms to consolidate the financial statements of the VIEs with their own as long as the investor is not the primary beneficiary of the VIE, as discussed in Chapter 9. What is the effect on Enron's balance sheet if it retains the energy contracts and derivatives versus transferring them to the VIE? What is the effect on the income statement? Will it make a difference if Enron sells the energy contracts and derivatives versus transferring them for an equity interest?

A second response to the question about the need to understand the effects of individual transactions on the financial statements relates to the increased complexity of many nonrecurring transactions in recent years. Consider the following examples.

Example 23

Tyco International engaged in extensive restructuring of its operations, closing down or selling manufacturing facilities and severing employees. GAAP requires firms to recognize restructuring expenses when they commit to a restructuring plan, even though several years may elapse before completing the plan. Will the recognition of restructuring expense result in an immediate decrease in assets, an increase in liabilities, or both? What is the effect on the income statement when the firm actually closes or sells a manufacturing facility or severs employees? What is the effect on subsequent balance sheet and income statement amounts if the firm discovers later that its initial restructuring expense was too small or too large?

Example 24

Nortel Networks made numerous corporate acquisitions totaling $33.5 billion in recent years. It allocated $14.5 billion of the purchase price to identifiable assets, such as accounts receivable, inventories, plant, and equipment, and to identifiable liabilities, such as accounts payable and long-term debt. Nortel allocated the remaining $19 billion to goodwill. What would be the effect on net income of subsequent years if Nortel had allocated more of the purchase price to identifiable assets and liabilities and less to goodwill? Nortel subsequently recognized a $12.3 billion goodwill impairment loss because the fair value of the acquired firms had declined since the acquisitions. What is the impact of the goodwill impairment loss on total assets, total liabilities, and shareholders' equity?

At this point you likely experienced some difficulty in understanding the effects of each of these transactions on the financial statements. This is expected. Later chapters discuss these transactions in greater depth. The purpose of these examples is to illustrate the need for an analytical framework to structure your thinking about business transactions and their effect on the financial statements.

Overview of the Analytical Framework

The analytical framework relies on the balance sheet equation:

Assets = Liabilities + Shareholders' Equity

We can expand the equation as follows:

Cash	+	Noncash Assets	=	Liabilities	+	Contributed Capital	+	Accumulated Other Comprehensive Income	+	Retained Earnings

Using symbols:

C	+	N$A	=	L	+	CC	+	AOCI	+	RE

Firms prepare balance sheets at the beginning and end of a period. Thus:

C	+	N$A	=	L	+	CC	+	AOCI	+	RE
								Other Comprehensive Income		Net Income − Dividends
C	+	N$A	=	L	+	CC	+	AOCI	+	RE

Transactions during a period link balance sheets at the beginning and end of the period. Many value changes affect net income for the period and thereby affect changes in retained earnings for the period. Other value changes affect Other Comprehensive Income for the period and thereby affect changes in Accumulated Other Comprehensive Income for the period.

We illustrate this analytical framework using several of the transactions discussed earlier in this chapter.

Example 25

Refer to Example 13. Gallo Wines (1) sold for $2,000,000 on account (2) wine costing $1,600,000 to produce. (3) Gallo Wines recognizes revenues and expenses in the same period for financial and tax reporting and pays income taxes at a rate of 40 percent immediately. We use the following abbreviations throughout the examples:

BS-BOP: Balance Sheet at the Beginning of the Period
IBT: Income before Taxes
OCI: Other Comprehensive Income
NI: Net Income
BS-EOP: Balance Sheet at the End of the Period

	C	+	N$A	=	L	+	CC	+	AOCI	+	RE
BS-BOP											
(1)			+2,000,000								+2,000,000
(2)			−1,600,000								−1,600,000
IBT											+ 400,000
(3)	−160,000										− 160,000
NI											+ 240,000
BS-EOP	−160,000		+ 400,000								+ 240,000

Net assets increase by $240,000 (= $400,000 − $160,000) and net income and retained earnings increase by $240,000.

Example 26

Refer to Example 14. (1) Red Lobster Restaurants sells for $145,700 land with a book value of $125,700. (2) Red Lobster recognizes the gain at the time of sale for both financial and tax reporting and pays taxes at a rate of 40 percent.

	C	+	N$A	=	L	+	CC	+	AOCI	+	RE
BS-BOP											
(1)	+145,700		−125,700								+20,000
IBT											+20,000
(2)	− 8,000										− 8,000
NI											+12,000
BS-EOP	+137,700		−125,700								+12,000

Net assets increase by $12,000 (= $137,700 − $125,700) and net income and retained earnings increase by $12,000.

Example 27

Refer to Example 15. Microsoft (1) purchases marketable securities costing $4,500,000 for cash, (2) revalues them to their $4,900,000 market value at the end of the period, (3) recognizes income taxes for the period, and (4) sells them for $5,000,000 during the next period. (5) The income tax law taxes gains and losses when realized at an income tax rate of 40 percent.

	C	+	N$A	=	L	+	CC	+	AOCI	+	RE
BS-BOP											
(1)	−4,500,000		+4,500,000								
(2)			+ 400,000						+400,000		
IBT									+400,000		
(3)					+160,000				−160,000		
OCI									+240,000		
BS-EOP	−4,500,000		+4,900,000		+160,000				+240,000		
(4)	+5,000,000		−4,900,000						−400,000		+500,000
IBT											+500,000
(5)	− 200,000				−160,000				+160,000		−200,000
NI											+300,000
BS-EOP	+ 300,000		0		0				0		+300,000

During the first year, Microsoft revalues the securities to market value and includes the $400,000 increase in Other Comprehensive Income. It recognizes a liability for future income taxes on the increase in value of $160,000 (= .4 × $400,000). Because Microsoft includes the pretax increase in value in Other Comprehensive Income, it reports the tax effect there as well (matching convention). The income tax law does not tax the unrealized gain immediately, so Microsoft increases its Deferred Tax Liability for $160,000. During the second year, Microsoft includes the realized gain of $500,000 in net income. It must reduce Accumulated Other Comprehensive Income for the $400,000 unrealized gain recognized in the first year. Thus, net income before taxes for the second year increases by $500,000 but shareholders' equity increases by only $100,000 (= $500,000 − $400,000), the value increase during the second year. The firm recognizes and pays $200,000 of income taxes on the realized gain. It must also eliminate the deferred tax liability of $160,000 recognized during the first year and eliminate income taxes of the same amount included in Accumulated Other Comprehensive Income.

Example 28

Refer to Examples 4, 8, and 17. American Airlines (1) purchases landing rights for $150 million, (2) amortizes the landing rights $30 million during the first year for both financial and tax reporting, (3) recognizes an asset impairment loss for the decline in fair value to $55 million at the end of the first year, and (4) recognizes the immediate tax savings from the amortization and the delayed tax savings from the asset impairment loss. The income tax law does not permit the firm to claim a tax deduction for the asset impairment immediately. Instead, it must continue to amortize the landing rights over their original expected life of five years.

	C	+	N$A	=	L	+	CC	+	AOCI	+	RE
BS-BOP											
(1)	−150		+150								
(2)			− 30								−30
(3)			− 65								−65
IBT											−95
(4)	+ 12		+ 26								+38
NI											−57
BS-EOP	−138		+ 81								+57

The income tax effects deserve elaboration. The income tax law requires firms to specify at the outset an expected useful life for the landing rights and to amortize them over this period. American Airlines selects five years as the useful life and amortizes $30 million a year. The firm realizes an immediate tax savings of $12 million for the $30 million of amortization expense recognized for financial and tax reporting. GAAP requires the firm to recognize the $65 million asset impairment loss, but the tax law does not permit American Airlines to claim an immediate tax deduction. Instead, it implicitly includes this amount as part of its amortization deduction over the remaining four years of useful life. Thus, the $65 million asset impairment loss gives rise to a $26 million (= .4 × $65 million) deferred tax asset for the future tax benefits of writing off the landing rights for tax purposes.

Example 29

Refer to Example 5. Sun Trust Banks (1) purchases a computer by giving a note with a present value of $998,178 (= present value of $250,000 a year for five years at 8 percent), (2) recognizes depreciation of $199,636 (= $998,178/5) on the computer for the first year based on a five-year useful life, (3) recognizes interest expense for the first year of $79,854 (= .08 × $998,178), the cash payment of $250,000, and the reduction in principal of $170,146 (= $250,000 − $79,854), and (4) recognizes the tax savings of $111,796 (= .40 × $279,490) from depreciation and interest deductions.

	C	+	N$A	=	L	+	CC	+	AOCI	+	RE
BS-BOP											
(1)			+998,178		+998,178						
(2)			−199,636								−199,636
(3)	−250,000				−170,146						− 79,854
IBT											−279,490
(4)	+111,796										+111,796
NI											−167,694
BS-EOP	−138,204		+798,542		+828,032						−167,694

Summary of Analytical Framework

This analytical framework may seem a bit unfamiliar at this stage in your study. Repeated use in later chapters will not only increase your comfort but demonstrate its richness in understanding the financial statement effects of a variety of complex business transactions. You may find it useful to practice using the framework with several familiar transactions. Several problems at the end of the chapter require the use of this analytical framework.

SUMMARY

This chapter provides the conceptual foundation for understanding the balance sheet and the income statement. Assets and liabilities on the balance sheet may reflect either historical values or current values. The conventional accounting model uses historical, or acquisition, costs to value assets and liabilities, and delays the recognition of value changes until external market transactions validate their amounts. Use of acquisition costs generally results in more reliable financial statements than current values, but such statements might provide less relevant information to users desiring to value the firm.

Recognizing value changes for assets and liabilities still leaves open the question of when the value change should affect net income. Such value changes might affect net income immediately or affect it later, initially lodging in Accumulated Other Comprehensive Income until validated by an external market transaction. Over sufficiently long time periods, net income equals cash inflows minus cash outflows, other than cash transactions with owners. Different approaches to asset and liability valuation and to income measurement affect the pattern of net income over time but not its ultimate amount.

Virtually every transaction affecting net income has an income tax effect. The accounting issue is whether firms should recognize the income tax effect when the related revenue or expense affects net income for financial reporting, or when it affects taxable income. That is, should the income tax match against the book amounts or the tax amounts? GAAP requires firms to measure income tax expense each period based on the pretax income for financial reporting. When income tax expense differs from income taxes currently payable on taxable income, firms recognize deferred tax assets and deferred tax liabilities. Deferred tax assets arise when taxable income exceeds book income. Firms prepay taxes now but reduce taxes paid later when the temporary difference reverses and book income exceeds taxable income. Deferred tax liabilities arise when book income exceeds taxable income. Firms delay paying taxes now but will pay the taxes later when the temporary differences reverse and taxable income exceeds book income.

Later chapters discuss the accounting for various assets, liabilities, revenues, and expenses. The analytical framework discussed in this chapter provides a tool for analyzing business transactions and understanding their effects on the financial statements. The analytical framework uses the balance sheet equation and changes in balance sheet amounts between the beginning and end of a period as its structuring device. You may not yet feel comfortable using this analytical framework, but repeated use in later chapters will demonstrate its richness as a tool of analysis.

QUESTIONS, EXERCISES, PROBLEMS, AND CASES

Questions and Exercises

2.1 ASSET VALUATION AND INCOME MEASUREMENT. "Asset valuation and income measurement closely relate." Explain, including conditions when they do not.

2.2 RELIABILITY VERSUS RELEVANCE. "With respect to asset valuation, reliability and relevance are often on opposite ends of the continuum." Explain.

2.3 INCOME FLOWS VERSUS CASH FLOWS. The text states: "Over sufficiently long time periods, net income equals cash inflows minus cash outflows, other than cash flows with owners." Demonstrate the accuracy of this statement in the following scenario. Two friends contributed $50,000 each to form a new business. The business used the amounts contributed to purchase a machine for $100,000 cash. The business estimated that the useful life of the machine was five years and the salvage value was $20,000. The business rented out the machine to a customer for an annual rental of $25,000 a year for five years. Annual cash operating costs for insurance, taxes, and other items totaled $6,000 annually. At the end of the fifth year, the business sold the equipment for $22,000, instead of the $20,000 salvage value initially estimated. *(Hint: Compute the total net income and the total cash flows other than cash flows with owners for the five-year period as a whole.)*

2.4 MEASUREMENT OF ACQUISITION COST. United Van Lines purchased a truck with a list price of $250,000 and subject to a 6 percent discount if paid within 30 days. United Van Lines paid within the discount period. It paid $4,000 to obtain title to the truck with the state and $800 as the license fee for the first year of operation. It paid $1,500 to paint the firm's name on the truck and $2,500 for property and liability insurance for the first year of operation. What acquisition cost of this truck should United Van Lines record in its accounting records? Indicate the treatment of any amount not included in acquisition cost.

2.5 MEASUREMENT OF A MONETARY ASSET. Boeing sold a 787 aircraft to American Airlines on January 1, Year 4. The sales agreement required American Airlines to pay $10 million immediately and $10 million on December 31 of each year for 20 years, with the first delayed payment to be made on December 31, Year 4. Boeing and American Airlines judge that 8 percent is an appropriate interest rate for this arrangement.

a. Compute the present value of the receivable on Boeing's books on January 1, Year 4, immediately after receiving the $10 million down payment.
b. Compute the present value of the receivable on Boeing's books on December 31, Year 4.
c. Compute the present value of the receivable on Boeing's books on December 31, Year 5.

2.6 COMPUTATION OF INCOME TAX EXPENSE. A firm's income tax return shows taxes currently payable for Year 4 of $50,000. It reports deferred tax assets of $42,900 at the beginning of Year 4 and $38,700 at the end of Year 4. It reports deferred tax liabilities of $28,600 at the beginning of Year 4 and $34,200 at the end of Year 4.

a. Compute the amount of income tax expense for Year 4.
b. Assume for this part that the firm's deferred tax assets are as stated above for Year 4 but that its deferred tax liabilities were $58,600 at the beginning of Year 4 and $47,100 at the end of Year 4. Compute the amount of income tax expense for Year 4.

2.7 COMPUTATION OF INCOME TAX EXPENSE. A firm's income tax return shows taxes currently payable for Year 4 of $35,000. It reports deferred tax assets before any valuation allowance of $24,600 at the beginning of Year 4 and $27,200 at the end of Year 4. It reports deferred tax liabilities of $18,900 at the beginning of Year 4 and $16,300 at the end of Year 4.

a. Assume for this part that the valuation allowance on the deferred tax assets totaled $6,400 at the beginning of Year 4 and $7,200 at the end of Year 4. Compute the amount of income tax expense for Year 4.
b. Assume for this part that the valuation allowance on the deferred tax assets totaled $6,400 at the beginning of Year 4 and $4,800 at the end of Year 4. Compute the amount of income tax expense for Year 4.

Problems and Cases

2.8 EFFECT OF VALUATION METHOD FOR NONMONETARY ASSET ON BALANCE SHEET AND INCOME STATEMENT. Wal-Mart acquires a tract of land on January 1, Year 4, for $100,000 cash. On December 31, Year 4, the current

market value of the land is $150,000. On December 31, Year 5, the current market value of the land is $120,000. The firm sells the land on December 31, Year 6, for $180,000 cash.

Required

Ignore income taxes. Using the analytical framework discussed in the chapter, indicate the effect of the preceding information for Year 4, Year 5, and Year 6 under each of the following valuation methods:

a. Valuation of the land at acquisition until sale of the land.
b. Valuation of the land at current market value but including unrealized gains and losses in Accumulated Other Comprehensive Income until sale of the land.
c. Valuation of the land at current market value and including market value changes each year in net income.
d. Why is retained earnings on December 31, Year 6, equal to $80,000 in all three cases despite the reporting of different amounts of net income each year?

2.9 EFFECT OF VALUATION METHOD FOR MONETARY ASSET ON BALANCE SHEET AND INCOME STATEMENT. Refer to Problem 2.8. Assume that Wal-Mart sells the land on December 31, Year 6, for a note receivable with a present value of $180,000 instead of for cash. The note bears interest at 8 percent and requires cash payments of $100,939 on December 31, Year 7 and Year 8. Interest rates for notes of this risk level increase to 10 percent on December 31, Year 7, resulting in a market value for the note on this date of $91,762.

Required

Ignore income taxes. Using the analytical framework discussed in the chapter, indicate the effect of the preceding information for Year 7 and Year 8 under each of the following valuation methods:

a. Valuation of the note at the present value of future cash flows using the historical market interest rate of 8 percent.
b. Valuation of the note at the present value of future cash flows using the current market interest rate of 8 percent for Year 7 and 10 percent for Year 8. Include unrealized holding gains and losses in net income.
c. Why is retained earnings on December 31, Year 8, equal to $101,878 in both cases despite the reporting of different amounts of net income each year?

2.10 EFFECT OF VALUATION METHOD FOR NONMONETARY ASSET ON BALANCE SHEET AND INCOME STATEMENT. General Motors (GM) acquired equipment used in its administrative activities for $100,000 on January 1, Year 4. The equipment had an expected useful life of four years and zero salvage value. GM calculates depreciation using the straight-line method over the remaining expected useful life in all cases. On December 31, Year 4, after recognizing depreciation for the year, GM learns that new equipment now offered on the market makes the equipment that GM purchased partially obsolete. The market value of the equipment on December 31, Year 4, reflecting this obsolescence, is $60,000. The expected useful life does not change. On December 31, Year 5, the market value of the equipment is $48,000. GM sells the equipment on January 1, Year 7, for $26,000.

Required

Ignore income taxes.

a. Assume for this part that GM accounts for the equipment using acquisition cost adjusted for depreciation and impairment losses. Using the analytical framework discussed in the chapter, indicate the effect of the following events on the balance sheet and income statement:
(**1**) Acquisition of the equipment for cash on January 1, Year 4.
(**2**) Depreciation for Year 4.
(**3**) Impairment loss for Year 4.
(**4**) Depreciation for Year 5.
(**5**) Depreciation for Year 6.
(**6**) Sale of the equipment on January 1, Year 7.

b. Assume for this part that GM accounts for the equipment using current market values adjusted for depreciation and impairment losses. Using the analytical framework discussed in the chapter, indicate the effect of the following events on the balance sheet and income statement.
(**1**) Acquisition of the equipment for cash on January 1, Year 4.
(**2**) Depreciation for Year 4.
(**3**) Impairment loss for Year 4.
(**4**) Depreciation for Year 5.
(**5**) Recognition of unrealized holding gain or loss for Year 5.
(**6**) Depreciation for Year 6.
(**7**) Recognition of unrealized holding gain or loss for Year 6.
(**8**) Sale of the equipment on January 1, Year 7.

c. After selling the equipment, why is retained earnings on January 1, Year 7, equal to a negative $74,000 in both cases, despite showing a different pattern of expenses, gains, and losses over time?

2.11 EFFECT OF VALUATION METHOD FOR MONETARY ASSET ON BALANCE SHEET AND INCOME STATEMENT. Mercedes Benz (MB) incurs costs of $30,000 in manufacturing an automobile during Year 4. Assume that it incurs all of these costs in cash. MB sells this automobile to you on January 1, Year 5, for $45,000. You pay $5,000 immediately and agree to pay $14,414 on December 31 of Year 5, Year 6, and Year 7. Based on the interest rate appropriate for this note of 4 percent on January 1, Year 5, the present value of the note is $40,000. The interest rate appropriate to this note is 5 percent on December 31, Year 5, resulting in a present value of the remaining cash flows of $26,802. The interest rate appropriate to this note is 8 percent on December 31, Year 6, resulting in a present value of the remaining cash flows of $13,346.

Required

Ignore income taxes.

a. Assume for this part that MB accounts for this note throughout the three years using the historical market interest rate of 4 percent. Using the analytical framework discussed in the chapter, indicate the effect of the following events on the balance sheet and income statement.
(**1**) Manufacture of the automobile during Year 4.
(**2**) Sale of the automobile on January 1, Year 5.
(**3**) Cash received and interest revenue recognized on December 31, Year 5.
(**4**) Cash received and interest revenue recognized on December 31, Year 6.
(**5**) Cash received and interest revenue recognized on December 31, Year 7.

b. Assume for this part that MB accounts for this note using the current market interest rate each year. Changes in market interest rates affect the valuation of the note

on the balance sheet immediately and the computation of interest revenue for the next year.

(1) Manufacture of the automobile during Year 4.
(2) Sale of the automobile on January 1, Year 5.
(3) Cash received and interest revenue recognized on December 31, Year 5.
(4) Note receivable revalued and an unrealized holding gain or loss recognized on December 31, Year 5.
(5) Cash received and interest revenue recognized on December 31, Year 6.
(6) Note receivable revalued and an unrealized holding gain or loss recognized on December 31, Year 6.
(7) Cash received and interest revenue recognized on December 31, Year 7.

c. Why is retained earnings on December 31, Year 7, equal to $18,242 in both cases, despite showing a different pattern of income over time?

2.12 INTERPRETING INCOME TAX DISCLOSURES. The financial statements of Target Corporation, a retail chain, reveal the information regarding income taxes shown in Exhibit 2.6.

Required

a. Assuming that Target had no significant permanent differences between book income and taxable income, did income before taxes for financial reporting exceed or fall short of taxable income for Year 3? Explain.

b. Did income before taxes for financial reporting exceed or fall short of taxable income for Year 4? Explain.

c. Will the adjustment to net income for deferred taxes to compute cash flow from operations in the statement of cash flows result in an addition or subtraction for Year 3? For Year 4?

d. Target does not contract with an insurance agency for property and liability insurance, but instead self-insures. Target recognizes an expense and a liability each year for financial reporting to reflect its average expected long-term property and liability losses. When it experiences an actual loss, it charges it against the liability. The income tax law permits a deduction for such losses only in the year sustained when firms self-insure. Why are deferred taxes related to self-insurance disclosed as a deferred tax asset instead of a deferred tax liability? Suggest reasons for the direction of the change in amounts for this deferred tax asset between Year 2 and Year 4.

e. Target treats certain storage and other inventory costs as expenses in the year incurred for financial reporting but must include these in inventory for tax reporting. Why are deferred taxes related to inventory disclosed as a deferred tax asset? Suggest reasons for the direction of the change in amounts for this deferred tax asset between Year 2 and Year 4.

f. Firms must recognize expenses related to postretirement health care and pension obligations as employees provide services but claim an income tax deduction only when they make cash payments under the benefit plan. Why are deferred taxes related to health care obligation disclosed as a deferred tax asset? Why are deferred taxes related to pensions disclosed as a deferred tax liability? Suggest reasons for the direction of the change in amounts for these deferred tax items between Year 2 and Year 4.

g. Firms must recognize expenses related to uncollectible accounts when they recognize sales revenues but claim an income tax deduction when they deem a particular customer's accounts uncollectible. Why are deferred taxes related to this item disclosed

EXHIBIT 2.6

Income Tax Disclosures for Target Corporation (amounts in millions) (Problem 2.12)

For the Year Ended January 31:	Year 4	Year 3
Income before Income Taxes		
United States	$3,031	$2,603
Income Tax Expense		
Current:		
Federal	$ 908	$ 669
State and Local	144	107
Total Current	$1,052	$ 776
Deferred:		
Federal	$ 83	$ 184
State and Local	11	24
Total Deferred	$ 94	$ 208
Total	$1,146	$ 984

January 31:	Year 4	Year 3	Year 2
Components of Deferred Tax Assets and Liabilities			
Deferred Tax Assets:			
Self-Insured Benefits	$ 179	$ 143	$ 188
Deferred Compensation	332	297	184
Inventory	47	44	56
Postretirement Health Care Obligation	38	42	41
Uncollectible Accounts	147	133	113
Other	128	53	166
Total Deferred Tax Assets	$ 871	$ 712	$ 748
Deferred Tax Liabilities:			
Depreciation	(1,136)	(945)	(826)
Pensions	(268)	(218)	(190)
Other	(96)	(84)	(59)
Total Deferred Tax Liabilities	$(1,500)	$(1,247)	$(1,075)
Net Deferred Tax Liability	$ (629)	$ (535)	$ (327)

as a deferred tax asset? Suggest reasons for the direction of the change in amounts for this deferred tax asset between Year 2 and Year 4.

h. Target uses the straight-line depreciation method for financial reporting and accelerated depreciation methods for income tax purposes. Why are deferred taxes related to depreciation disclosed as a deferred tax liability? Suggest reasons for the direction of the change in amounts for this deferred tax liability between Year 2 and Year 4.

2.13 INTERPRETING INCOME TAX DISCLOSURES. The financial statements of Nike Corporation reveal the information regarding income taxes shown in Exhibit 2.7.

Required

a. Assuming that Nike had no significant permanent differences between book income and taxable income, did income before taxes for financial reporting exceed or fall short of taxable income for Year 3? Explain.

b. Did book income before taxes for financial reporting exceed or fall short of taxable income for Year 4? Explain.

EXHIBIT 2.7

Income Tax Disclosures for Nike Corporation (amounts in millions) (Problem 2.13)

For the Year Ended December 31:	Year 4	Year 3
Income before Income Taxes	$1,450	$1,123
Income Tax Expense		
Current:		
Federal	$ 185	$ 125
State and Local	43	34
Total Current	$ 495	$ 349
Deferred	9	34
Total	$ 504	$ 383

December 31:	Year 4	Year 3	Year 2
Components of Deferred Tax Assets and Liabilities			
Deferred Tax Assets:			
Sales Returns	$ 31	$ 27	$ 20
Allowance for Doubtful Accounts	14	12	10
Deferred Compensation	82	68	56
Inventory	28	18	16
Foreign Loss Carryforwards	54	36	24
Other	42	68	22
Gross Deferred Tax Assets	$ 251	$ 229	$148
Valuation Allowance	(27)	(13)	(8)
Net Deferred Tax Assets	$ 224	$ 216	$140
Deferred Tax Liabilities:			
Depreciation	(110)	(86)	(60)
Undistributed Earnings of Foreign Subsidiaries	(96)	(90)	(24)
Other	(15)	(28)	(10)
Total Deferred Tax Liabilities	$(221)	$(204)	$(94)
Net Deferred Tax Asset	$ 3	$ 12	$ 46

c. Will the adjustment to net income for deferred taxes to compute cash flow from operations in the statement of cash flows result in an addition or subtraction for Year 3? For Year 4?

d. Nike recognizes provisions for sales returns and doubtful accounts each year in computing income for financial reporting. Nike cannot claim an income tax deduction for these returns and doubtful accounts until customers return goods or accounts become uncollectible. Why do the deferred taxes for returns and doubtful accounts appear as deferred tax assets instead of deferred tax liabilities? Suggest possible reasons why the deferred tax asset for sales returns and doubtful accounts increased between the end of Year 2 and the end of Year 4.

e. Nike recognizes an expense related to deferred compensation as employees render services but cannot claim an income tax deduction until it pays cash to a retirement fund. Why do the deferred taxes for deferred compensation appear as a deferred tax asset? Suggest possible reasons why the deferred tax asset increased between the end of Year 2 and the end of Year 4.

f. Nike recognizes a valuation allowance on its deferred tax assets related to foreign loss carryforwards because the benefits of some of these losses will expire before the firm will realize the benefits. Why might the valuation allowance have increased between Year 2 and Year 4?

g. Nike uses the straight-line depreciation method for financial reporting and accelerated depreciation for income tax reporting. Why do the deferred taxes related to depreciation appear as deferred tax liabilities? Suggest possible reasons why the amount of the deferred tax liability related to fixed assets increased between Year 2 and Year 4.

h. Nike recognizes its share of the earnings from investments in foreign subsidiaries each year for financial reporting but recognizes income from these investments for income tax reporting only when it receives a dividend. Why do the deferred taxes related to these investments appear as a deferred tax liability?

i. Why does Nike recognize both deferred tax assets and deferred tax liabilities related to investments in foreign operations?

2.14 INTERPRETING INCOME TAX DISCLOSURES. The financial statements of Ford Motor Company reveal the information regarding income taxes shown in Exhibit 2.8.

Required

a. Assuming that Ford had no significant permanent differences between book income and taxable income, did income before taxes for financial reporting exceed or fall short of taxable income for Year 10? Explain.

b. Did net loss before taxes for financial reporting exceed or fall short of taxable loss for Year 11? Explain.

c. Will the adjustment to net income for deferred taxes to compute cash flow from operations in the statement of cash flows result in an addition or subtraction for Year 10? For Year 11?

d. Firms must recognize expenses related to employee benefit plans as employees provide services but claim an income tax deduction only when they make cash payments to the benefit plan. Why are deferred taxes related to employee benefit plans disclosed as a deferred tax asset instead of a deferred tax liability? Suggest reasons for the direction of the change in amounts for this deferred tax asset between Year 9 and Year 11.

EXHIBIT 2.8

Income Tax Disclosures for Ford Motor Company
(amounts in millions)
(Problem 2.14)

For the Year Ended December 31:	Year 11	Year 10
Income before Income Taxes		
United States	$(6,015)	$9,559
Non-United States	(1,085)	(1,241)
Total	$(7,100)	$8,318
Income Tax Expense		
Current:		
Federal	$ 22	$ 154
Non-United States	103	760
State and Local	—	116
Total Current	$ 125	$1,030
Deferred:		
Federal	$(2,126)	$2,617
Non-United States	(248)	(1,153)
State and Local	98	211
Total Deferred	$(2,276)	$1,675
Total	$(2,151)	$2,705

December 31:	Year 11	Year 10	Year 9
Components of Deferred Tax Assets and Liabilities			
Deferred Tax Assets:			
Employee Benefit Plans	$ 5,895	$ 5,138	$ 4,195
Dealer and Customer Allowances and Claims	1,919	2,365	2,709
Credit Losses	1,518	1,067	1,006
Other	8,297	4,026	2,068
Total Deferred Tax Assets	$ 17,629	$ 12,596	$ 9,978
Deferred Tax Liabilities:			
Depreciation	(11,784)	(11,753)	(9,902)
Finance Receivables	(2,388)	(2,593)	(1,328)
Other	(5,084)	(2,153)	(976)
Total Deferred Tax Liabilities	$(19,256)	$(16,499)	$(12,206)
Net Deferred Tax Asset (Liability)	$ (1,627)	$ (3,903)	$ (2,228)

e. Firms must recognize expenses related to dealer and customer allowances and claims when they recognize sales revenues but claim an income tax deduction when they make cash payments or provide warranty services. Why are deferred taxes related to this item disclosed as a deferred tax asset? Suggest reasons for the

direction of the change in amounts for this deferred tax asset between Year 9 and Year 11.

f. Firms must recognize expenses for credit losses as they recognize sales revenues but claim an income tax deduction when they establish the uncollectibility of a particular customer's account. Why are deferred taxes related to credit losses disclosed as a deferred tax asset? Suggest reasons for the direction of the change in amounts for this deferred tax asset between Year 9 and Year 11.

g. Ford uses the straight-line depreciation method for financial reporting and accelerated depreciation methods for income tax purposes. Why are deferred taxes related to depreciation disclosed as a deferred tax liability? Suggest reasons for the direction of the change in amounts for this deferred tax liability between Year 9 and Year 11.

h. Ford leases automobiles and trucks to customers under multiyear leases. For financial reporting, Ford treats these leases as capital, or financing, leases, with income from the manufacturing activity recognized at the time of delivery of the vehicle to the customer and interest revenue on the finance receivable recognized over time. For tax reporting, Ford treats these arrangements as operating leases, with rent revenue recognized over time as customers make periodic lease payments. Why are deferred taxes related to finance receivables disclosed as a deferred tax liability? Suggest reasons for the direction of the change in amounts for this deferred tax liability between Year 9 and Year 11.

2.15 ANALYZING TRANSACTIONS. Using the analytical framework illustrated in the chapter, indicate the effect of the following related transactions of a firm:

a. January 1: Issued 10,000 shares of common stock for $50,000.

b. January 1: Acquired a building costing $35,000, paying $5,000 in cash and borrowing the remainder from a bank.

c. During the year: Acquired inventory costing $40,000 on account from various suppliers.

d. During the year: Sold inventory costing $30,000 for $65,000 on account.

e. During the year: Paid employees $15,000 as compensation for services rendered during the year.

f. During the year: Collected $45,000 from customers related to sales on account.

g. During the year: Paid merchandise suppliers $28,000 related to purchases on account.

h. December 31: Recognized depreciation on the building of $7,000 for financial reporting. Depreciation expense for income tax purposes was $10,000.

i. December 31: Recognized compensation for services rendered during the last week in December but not paid by year end of $4,000.

j. December 31: Recognized and paid interest on the bank loan in part b of $2,400 for the year.

k. Recognized income taxes on the net effect of the preceding transactions at an income tax rate of 40 percent. Assume that the firm pays cash immediately for any taxes currently due to the government.

2.16 ANALYZING TRANSACTIONS. Using the analytical framework illustrated in the chapter, indicate the effect of each of the three independent sets of transactions described next.

a. **(1)** January 15, Year 10: Purchased marketable equity securities for $100,000.
(2) December 31, Year 10: Revalued the marketable securities to their market value of $90,000. Unrealized changes in the market value of marketable equity securities appear in Accumulated Other Comprehensive Income.

(3) December 31, Year 10: Recognized income tax effects of the revaluation in item (2) at an income tax rate of 40 percent. The income tax law includes changes in the market value of equity securities in taxable income only when the investor sells the securities.
(4) January 5, Year 11: Sold the marketable equity securities for $94,000.
(5) January 5, Year 11: Recognized the tax effect of the sale of the securities in item (4). Assume that the tax effect affects cash immediately.

b. (1) During Year 11: Sells inventory on account for $500,000.
(2) During Year 11: The cost of the goods sold in item (1) is $400,000.
(3) During Year 11: Estimated that uncollectible accounts on the goods sold in item (1) will equal 2 percent of the selling price.
(4) During Year 11: Estimated that warranty claims on the goods sold in item (1) will equal 4 percent of the selling price.
(5) During Year 11: Actual accounts written off as uncollectible totaled $3,000.
(6) During Year 11: Actual cash expenditures on warranty claims totaled $8,000.
(7) December 31, Year 11: Recognized income tax effects of the preceding six transactions. The income tax rate is 40 percent. The income tax law permits a deduction for uncollectible accounts when a firm writes off accounts as uncollectible and for warranty claims when a firm makes warranty expenditures. Assume that any tax effect on taxable income affects cash immediately.

c. (1) January 1, Year 11: Purchased $100,000 face value of zero-coupon bonds for $68,058. These bonds mature on December 31, Year 15, and are priced on the market at the time of issuance to yield 8 percent compounded annually. Zero-coupon bonds earn interest as time passes for financial and tax reporting but the issuer does not pay interest until maturity. Assume that any tax effect on taxable income affects cash immediately.
(2) December 31, Year 11: Recognized interest revenue on the bonds for Year 11.
(3) December 31, Year 11: Recognized income tax effect of the interest revenue for Year 11. The income tax law taxes interest on zero-coupon bonds as it accrues each year.
(4) December 31, Year 12: Recognized interest revenue on the bonds for Year 12.
(5) December 31, Year 12: Recognized income tax effect of the interest revenue for Year 12.
(6) January 2, Year 13: Sold the zero-coupon bonds for $83,683.
(7) January 2, Year 13: Recognized the income tax effect of the gain or loss on the sale. The applicable income tax rate is 40 percent and affects cash immediately.

INTEGRATIVE CASE 2.1

STARBUCKS

The financial statements of Starbucks Corporation reveal the information regarding income taxes shown in Exhibit 2.9.

Required

a. Assuming that Starbucks had no significant permanent differences between book income and taxable income, did income before taxes for financial reporting exceed or fall short of taxable income for Year 3? Explain.
b. Did book income before taxes for financial reporting exceed or fall short of taxable income for Year 4? Explain.

EXHIBIT 2.9

Income Tax Disclosures for Starbucks
(amounts in millions)
(Integrative Case 2.1)

For the Year Ended December 31:	Year 4	Year 3
Income before Income Taxes	$622.4	$433.9
Income Tax Expense		
Current:		
Federal	$188.6	$140.2
Foreign	10.2	8.5
State	36.4	25.4
Total Current	$235.2	$174.1
Deferred	(3.4)	(7.0)
Total	$231.8	$167.1

December 31:	Year 4	Year 3	Year 2
Components of Deferred Tax Assets and Liabilities			
Deferred Tax Assets:			
Equity Investments	$ 10.8	$ 17.6	$ 15.3
Deferred Compensation	31.1	20.5	12.7
Accrued Occupancy Costs	27.0	22.3	14.6
Other	52.0	48.2	39.8
Gross Deferred Tax Assets	$120.9	$108.6	$ 82.4
Valuation Allowance	(8.3)	(13.7)	(6.7)
Net Deferred Tax Assets	$112.6	$ 94.9	$ 75.7
Deferred Tax Liabilities:			
Depreciation	(58.5)	(49.4)	(40.8)
Other	(12.2)	(7.0)	(3.4)
Total Deferred Tax Liabilities	$(70.7)	$(56.4)	$(44.2)
Net Deferred Tax Asset	$ 41.9	$ 38.5	$ 31.5

c. Will the adjustment to net income for deferred taxes to compute cash flow from operations in the statement of cash flows result in an addition or subtraction for Year 3? For Year 4?

d. Starbucks holds investments in the equity securities of several Internet companies for which it recognized impairment losses for financial reporting. Starbucks cannot claim an income tax deduction for these losses until it realizes the loss at the time of sale. Why do the deferred taxes for losses on these investments appear as deferred tax assets instead of deferred tax liabilities?

e. Starbucks recognizes an expense related to retirement benefits as employees rendered services but cannot claim an income tax deduction until it pays cash to a retirement fund. Why do the deferred taxes for deferred compensation appear as a

deferred tax asset? Suggest possible reasons why the deferred tax asset increased between the end of Year 2 and the end of Year 4.

f. Starbucks rents retail space for its coffeehouses. It must recognize rent expense as it uses rental facilities but cannot claim an income tax deduction until it pays cash to the landlord. Suggest the scenario that would give rise to a deferred tax asset instead of a deferred tax liability related to occupancy cost.

g. Starbucks recognizes a valuation allowance on its deferred tax assets related to losses on investments because the benefits of some of these losses will expire before the firm will realize the benefits. Why might the valuation allowance have increased between Year 2 and Year 3 and decreased between Year 3 and Year 4?

h. Starbucks uses the straight-line depreciation method for financial reporting and accelerated depreciation for income tax reporting. Why do the deferred taxes related to depreciation appear as deferred tax liabilities? Suggest possible reasons why the amount of the deferred tax liability related to depreciation increased between Year 2 and Year 4.

Chapter 3

Income Flows versus Cash Flows: Key Relationships in the Dynamics of a Business

Learning Objectives

1. **Understand the relation between net income and cash flow from operations for firms in various industries.**
2. **Understand the relation between cash flows from operating, investing, and financing activities for firms in various stages of their life cycles.**
3. **Prepare a statement of cash flows from balance sheet and income statement data.**

The income statement reports the financial performance of a firm during a period by summarizing the revenues, expenses, gains, and losses of the firm following the principles of the accrual basis of accounting. A primary objective in preparing an income statement is to obtain a measure of operating performance that matches economic resources used, or consumed, as expenses with the associated economic resources earned as revenues. When the accountant cannot directly match economic resources earned and consumed, accrual accounting matches the economic resources consumed with the period when they are consumed. The accrual basis of accounting ignores the timing of cash receipts when recognizing revenues and gains and the timing of cash expenditures when recognizing expenses and losses. The desire to match revenues and expenses either to each other or to the appropriate period in measuring operating performance overrides the desirability of reporting information on an important ingredient for remaining in business: cash flows. This creates the need for firms to provide another financial statement that reports the flows of cash in and out of a firm: the statement of cash flows.

Chapter 1 points out that a firm's cash flows will differ from net income each period because (1) cash receipts from customers do not necessarily occur in the same period in which a firm recognizes revenues, (2) cash expenditures to employees, suppliers, and governments do not necessarily occur in the same period in which a firm recognizes expenses, and (3) cash inflows and outflows occur relating to investing and financing activities that do not immediately flow through the income statement. Thus, to augment information on operating performance in accrual-based income statements, firms prepare a statement of cash flows that reports the relation between net income and cash flow from operations. It also reports the cash flow effects of investing and financing activities.

An understanding of cash flows is helpful in each of the six steps in financial statement analysis discussed in Chapter 1:

- **Identifying the Economic Characteristics of a Business:** The pattern of cash flows from operating, investing, and financing activities differs for various types of businesses and for firms in various stages of their life cycle. High-growth, capital-intensive firms likely experience insufficient cash flow from operations to finance capital expenditures and require external financing to maintain their growth. Mature consumer products companies usually generate more than sufficient cash flow from operations to finance their modest needs for capital expenditures and can use the excess cash flow to repay debt, pay dividends, or repurchase common stock.
- **Identify the Strategy of the Firm:** The analyst should expect a rapidly growing capital-intensive firm to invest heavily in fixed assets. A firm pursuing a strategy of growth by acquiring other firms should report significant cash outflows for corporate acquisitions. A firm divesting itself of noncore businesses should report cash inflows from disposing of these businesses.
- **Adjust the Financial Statements for Nonrecurring, Unusual Items:** An analyst who chooses to eliminate nonrecurring or unusual items from net income to assess ongoing operating performance should also adjust cash flow from operations for those items that affect cash flows.
- **Analyze Profitability and Risk:** Chapter 2 makes clear that, over sufficiently long periods, net income equals the net cash flow from operating, investing, and nonowner financing activities. Thus, a reality check on net income is that it should converge on this net cash flow amount. Also, the ability of a firm to generate sufficient cash flow from operations to finance capital expenditures and repay borrowing is a key signal of the financial health of the firm.
- **Prepare Forecasted Financial Statements:** A statement of cash flows is one of the financial statements that the analysis should prepare when preparing forecasts of future cash flows and earnings for use in valuation. Forecasts of cash flows can provide analysts with key insights into whether operations will generate sufficient cash flow for future investing and financing activities, or whether the firm will face capital constraints and need to borrow with new debt or issue common stock.
- **Value the Firm:** Chapter 12 discusses the use of free cash flow in the valuation of a firm. Free cash flow to all debt and common-equity stakeholders approximately equals cash flow from operations in excess of cash flow from investing. Discounting these cash flows at the appropriate discount rate yields the value of total debt plus equity. Free cash flow to common-equity shareholders equals cash flows from operations in excess of cash flow from investing and cash flow from non-owner (debt) financing. Discounting these cash flows at the appropriate discount rate yields the value of equity.[1]

This chapter explores the statement of cash flows in greater depth than the overview presented in Chapter 1. We look at the relation between net income and cash flow from operations for various types of businesses and at the relation between the cash flows from operating, investing, and financing activities for firms in various stages of their life cycles. We also describe and illustrate procedures for preparing the statement of cash flows using information from the balance sheet and income statement.[2]

[1]Chapter 12 defines free cash flows and describes its calculation more precisely.

[2]*Statement No. 95* defines cash flows in terms of their effect on cash and cash equivalents. Cash equivalents include highly liquid investments that are both readily convertible into cash and so near to maturity that changes in interest rates present an insignificant risk to their market value. Cash equivalents usually include Treasury bills, commercial paper, and money market funds. Throughout this book, we use the term *cash* to mean cash and cash equivalents as defined in Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 95,* "Statement of Cash Flows" (1987).

NET INCOME, CASH FLOWS, AND LIFE CYCLE RELATIONS

Interpreting the statement of cash flows requires an understanding of two relations:

1. The relation between net income and cash flow from operations.
2. The relation among the net cash flows from operating, investing, and financing activities.

Net Income and Cash Flow from Operations

The first section of the statement of cash flows reports the amount of cash flow from operations: the cash received from selling goods and services to customers net of the cash paid to suppliers, employees, governments, and other providers of goods and services. Firms present cash flow from operations in one of two formats: the direct method or the indirect method. Under the *direct method,* firms list the cash inflows from selling goods and services and then subtract the cash outflows to providers of goods and services. The top panel of Exhibit 3.1 shows the direct method of calculating cash flow from operations for Northrop Grumman, a developer and manufacturer of technology-based military defense products and systems.

Under the *indirect method,* firms begin with net income to calculate cash flow from operations. The provisional assumption is that cash increased by the amount of revenues and decreased by the amount of expenses. However, not all revenues result in simultaneous and identical cash receipts and not all expenses result in simultaneous and identical cash expenditures. Firms must then adjust net income to convert revenues and expenses into cash receipts and disbursements to obtain cash flow from operations. The lower panel of Exhibit 3.1 illustrates the indirect method of presentation.

Most firms use the indirect method because it reconciles net income for a period with the net amount of cash received or paid for operations. GAAP in fact requires firms that report cash flow from operations using the direct method to provide a reconciliation between net income and cash flow from operations in a separate schedule or notes to the financial statements.[3] Critics of the indirect method suggest that the rationale for some of the reconciling items is difficult for less sophisticated users to understand, although more seasoned analysts should encounter less difficulty. We use the indirect method throughout this text because of its widespread use by business firms and familiarity to analysts.

The calculation of cash flow from operations under the indirect method involves two types of adjustments:

Type 1—adjustments to net income for revenues, expenses, gains, and losses that are recognized in income and are associated with changes in noncurrent assets, noncurrent liabilities, and shareholders' equity accounts but that do not affect cash by the same amounts that period (for example, adding back depreciation expense to net income).

Type 2—adjustments to net income for revenues, expenses, gains, and losses that are recognized in income and are associated with changes in operating working capital accounts (for example, accounts receivable, inventories, and accounts payable) but that do not affect cash by the same amount that period (for example, the difference between revenues recognized and cash collected from customers).[4]

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[3] *Ibid.,* par. 29–30.

[4] Working capital means current assets minus current liabilities. Operating working capital accounts generally include all current assets except marketable securities and all current liabilities except short-term loans and the current portion of long-term debt. A later section of this chapter explains the rationale for excluding these items from operating working capital.

EXHIBIT 3.1

Cash Flow from Operations Presented in Direct and Indirect Methods for Northrop Grumman (amounts in millions)

	Year Ended December 31:		
	Year 4	**Year 3**	**Year 2**
Direct Method			
Cash Received from Customers	$29,693	$26,507	$17,617
Other Cash Receipts	163	259	397
Cash Paid to Suppliers and Employees	(26,751)	(24,011)	(15,860)
Interest Paid	(443)	(593)	(334)
Income Taxes Paid	(449)	(1,152)	(149)
Other Cash Payments	(267)	(241)	(17)
Cash Flow from Continuing Operations	$ 1,946	$ 769	$ 1,654
Cash Flow from Discontinued Operations	(10)	29	35
Net Cash Flow from Operations	$ 1,936	$ 798	$ 1,689
Indirect Method			
Income from Continuing Operations	$ 1,093	$ 758	$ 455
Depreciation and Amortization	734	682	517
Other Additions and Subtractions	162	110	93
Adjustments for Changes in Working Capital:			
(Increase) Decrease in Accounts and Notes Receivable	(5,674)	(5,385)	(771)
(Increase) Decrease in Inventories	3	(53)	(211)
(Increase) Decrease in Prepayments	3	5	38
Increase (Decrease) in Progress Payments	5,400	5,264	1,109
Increase (Decrease) in Accounts Payable	322	(276)	78
Increase (Decrease) in Other Current Liabilities	(97)	(336)	346
Cash Flow from Continuing Operations	$ 1,946	$ 769	$ 1,654
Cash Flow from Discontinued Operations	(10)	29	35
Net Cash Flow from Operations	$ 1,936	$ 798	$ 1,689

Refer to the statement of cash flows for PepsiCo in Exhibit 3.2. PepsiCo reports cash flow from operations using the indirect method. The cash flow statement begins with net income. PepsiCo then lists a set of "Adjustments to reconcile net income to net cash provided by operating activities." The first set of items listed, beginning with "Depreciation and amortization" and ending with "Other noncash charges and credits, net" represents Type 1 adjustments. PepsiCo then lists "Changes in operating working capital, excluding effects of acquisitions and dispositions." This second set of adjustments represents Type 2 adjustments. We discuss each of these adjustments next.

EXHIBIT 3.2

PepsiCo, Inc. and Subsidiaries
Consolidated Statements of Cash Flows
Fiscal Years Ended December 25, Year 4; December 27, Year 3; and December 28, Year 2
(in millions)

	Year 4	Year 3	Year 2
Operating Activities			
Net income	$ 4,212	$ 3,568	$ 3,000
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,264	1,221	1,112
Stock-based compensation expense	368	407	435
Merger-related costs	—	59	224
Impairment and restructuring charges	150	147	—
Cash payments for merger-related costs and restructuring charges	(92)	(109)	(123)
Tax benefit from discontinued operations	(38)	—	—
Pension plan contributions	(458)	(535)	(820)
Bottling equity income, net of dividends	(297)	(276)	(222)
Deferred income taxes	17	(323)	174
Other noncash charges and credits, net	341	415	263
Changes in operating working capital, excluding effects of acquisitions and dispositions:			
Accounts and notes receivable	(130)	(220)	(260)
Inventories	(100)	(49)	(53)
Prepaid expenses and other current assets	(31)	23	(78)
Accounts payable and other current liabilities	216	(11)	426
Income taxes payable	(268)	182	270
Net change in operating working capital	$ (313)	$ (75)	$ 305
Other	(100)	(171)	279
Net Cash Provided by Operating Activities	$ 5,054	$ 4,328	$ 4,627
Investing Activities			
Capital spending	$(1,387)	$(1,345)	$(1,437)
Sales of property, plant, and equipment	38	49	89
Acquisitions and investments in noncontrolled affiliates	(64)	(71)	(351)
Divestitures	52	46	376
Short-term investments, by original maturity			
More than three months—purchases	(44)	(38)	(62)
More than three months—maturities	38	28	122
Three months or less, net	(963)	(940)	697
Snack Ventures Europe consolidation	—	—	39
Net Cash Used for Investing Activities	$(2,330)	$(2,271)	$ (527)

Continued

EXHIBIT 3.2

continued

	Year 4	Year 3	Year 2
Financing Activities			
Proceeds from issuances of long-term debt	$ 504	$ 52	$ 11
Payments of long-term debt	(512)	(641)	(353)
Short-term borrowings, by original maturity			
More than three months—proceeds	153	88	707
More than three months—payments	(160)	(115)	(809)
Three months or less, net	1,119	40	40
Cash dividends paid	(1,329)	(1,070)	(1,041)
Share repurchases—common	(3,028)	(1,929)	(2,158)
Share repurchases—preferred	(27)	(16)	(32)
Proceeds from exercises of stock options	965	689	456
Net Cash Used for Financing Activities	$(2,315)	$(2,902)	$(3,179)
Effect of exchange rate changes on cash and cash equivalents	$ 51	$ 27	$ 34
Net (Decrease) Increase in Cash and Cash Equivalents	$ 460	$ (818)	$ 955
Cash and Cash Equivalents, Beginning of Year	820	1,638	683
Cash and Cash Equivalents, End of Year	$ 1,280	$ 820	$ 1,638

Type 1 Adjustments for Changes in Noncurrent Assets, Noncurrent Liabilities, and Shareholders' Equity Accounts

Certain revenues and expenses accompany changes in a noncurrent asset, a noncurrent liability, or a shareholders' equity account and affect cash flow differently from net income. Firms must add amounts to, or subtract amounts from, net income to convert net income to cash flow from operations for these items.

Depreciation expense, for example, reduces net property, plant, and equipment and net income. However, depreciation expense does not require an *operating* cash outflow in the period of the expense (on the contrary, firms classify the cash outflow to acquire depreciable assets as an *investing* activity in the year of acquisition; PepsiCo lists such acquisitions as "Capital spending" in the investing section of its statement of cash flows in Exhibit 3.2). The addback of depreciation expense to net income when computing cash flow from operations offsets the effect of the subtraction of depreciation expense when computing net income (that is, the addback nets its effect on cash flow from operations to zero). Note that PepsiCo includes depreciation on buildings and equipment and amortization of intangibles on a single line as an addback to net income in computing cash flow from operations.

Chapter 2 points out that firms recognize on the income statement income tax expense that contains a component for deferred income taxes, and they recognize deferred tax assets and/or deferred tax liabilities on the balance sheet when they use different methods of accounting for financial reporting and income tax reporting. The total amount of income tax expense, both current and deferred, will differ from the amount of income taxes currently payable. Firms add back an excess of income tax expense over income taxes currently payable and subtract an excess of income taxes currently payable over income tax expense when converting net income to cash flow from operations. PepsiCo shows an addback for deferred income taxes of $17 million in Year 4, suggesting that income tax expense exceeds income taxes currently payable for the year. In contrast, PepsiCo shows a subtraction for deferred taxes of $323 million in Year 3, indicating that taxes payable in Year 3 exceeded income tax expense. Note that the adjustments described here for deferred taxes adjust income tax expense to the amount of tax currently payable. In the next section, we describe adjustments to convert taxes currently payable to the actual amount of cash paid for taxes.

Chapter 9 discusses GAAP's required recognition of an expense for the benefit to employees of stock options, which permit employees to purchase shares of the firm's common stock for less than their market value. This expense reduces net income and increases a shareholders' equity account. Because the expense does not use cash, firms add back stock option expense to net income when computing cash flow from operations (in fact, the receipt of cash when employees exercise stock options is a *financing* activity; PepsiCo lists such stock issuances as "Proceeds from exercises of stock options" in the financing section of its statement of cash flows in Exhibit 3.2). PepsiCo lists the addback as "Stock-based compensation expense" in the operating section of its statement of cash flows.

Firms that sell an item of property, plant, or equipment report the full cash proceeds as an investing activity (see the line "Sales of property, plant, and equipment" for PepsiCo in Exhibit 3.2). Because net income includes any gain or loss on the sale (that is, sale proceeds minus the book value of the item sold), the operating section of the statement of cash flows shows an addback for a loss and a subtraction for a gain to offset their inclusion in net income. The amount of any gain or loss for PepsiCo must be sufficiently small that it includes it on the line "Other noncash charges and credits, net."

Chapter 9 points out that a firm holding an investment of 20 to 50 percent in another entity generally uses the equity method to account for the investment (a noncurrent asset). The investor recognizes its share of the investee's earnings each period, increasing the investment account and net income. It reduces the investment account for dividends received. Thus, net income reflects the investor's share of earnings, not the cash received. The statement of cash flows usually shows a subtraction from net income for the excess of the investor's share of the investee's earnings over dividends received. PepsiCo reports "Bottling equity income, net of dividends" as a subtraction when converting net income to cash flow from operations.

Other examples of revenues and expenses that relate to changes in noncurrent asset, noncurrent liability, and shareholders' equity accounts include minority interest in the earnings of consolidated subsidiaries, some asset impairment and restructuring charges, and differences between pension expense and pension funding. Later chapters discuss more fully each of the items described in this section.

Type 2 Adjustments for Changes in Operating Working Capital Accounts

The second type of adjustment to reconcile net income to cash flow from operations involves changes in operating current asset and current liability accounts. Firms must

adjust the amounts for revenues and expenses included in net income to the corresponding amounts of cash receipts and disbursements for these items as well as those discussed in the preceding section. For example, an increase in accounts receivable for a period indicates that a firm did not collect as much cash as the amount of revenues included in net income. PepsiCo's statement of cash flows in Exhibit 3.2, for example, shows a subtraction each year for the change in accounts and notes receivable. The subtraction converts the amount of revenues included in net income to the amount of cash received from customers.

PepsiCo also reports a subtraction for the change in inventories, indicating that it used more cash to purchase inventories than the amount of cost of sales included as an expense in computing net income.

An increase in current operating liabilities means that a firm did not use as much cash for operating expenses as the amounts appearing on the income statement. An addition to net income for the increase in current operating liabilities converts operating expenses on an accrual basis to cash paid to suppliers of various goods and services. PepsiCo, for example, shows an addition for "Accounts payable and other current liabilities" for Year 4, indicating that it has not yet paid for some of the expenses on the income statement for the year.

PepsiCo also reports an adjustment for the change in income taxes payable. Recall from the earlier discussion that the addition to or subtraction from net income for the change in deferred income taxes converts income tax expense to income taxes currently payable. The adjustment for the changes in income taxes payable converts income taxes currently payable as indicated on the income tax return for the year to the income taxes actually paid. Firms typically do not pay all taxes due for a particular year during that year. Some taxes that a firm pays within a year relate to taxes due for the preceding year; some taxes due for the current year the firm pays in the following year.

We note two other items with respect to the adjustments for changes in working capital. First, the adjustments in this section are only to *operating* working capital accounts. Some current assets and current liabilities relate to investing or financing activities and not operating activities. Changes in marketable securities, for example, are investing activities. Note that PepsiCo reports cash flows from changes in "Short-term investments, by original maturity" in the investing section of its statement of cash flows. Also, changes in short-term borrowing are financing activities. PepsiCo reports cash flows related to "Short-term borrowings, by original maturity" in the financing section.

Second, the amounts of the adjustments for changes in operating working capital accounts in the statement of cash flows often do not always equal the amounts on the comparative balance sheets at the beginning and end of the year. For example, PepsiCo's subtraction of $130 million for the change in accounts and notes receivable for Year 4 indicates that this account increased during the year. The comparative balance sheet for PepsiCo in Appendix A indicates that accounts and notes receivable increased from $2,830 million at the end of Year 3 to $2,999 million at the end of Year 4, an increase of $169 million. Thus, $130 million of the $169 million increase in accounts and notes receivable relates to operating activities. The remaining $39 million of the increase results from the net change in this account from acquisitions and divestitures during the year.[5] PepsiCo reports the amounts of cash used for acquisitions and the cash received from divestitures in the investing section of its statement of cash flows in Exhibit 3.2. The $64 million shown for acquisitions and investments for Year 4 is the cash used to acquire the

[5]In PepsiCo's case, the $39 million also includes the effects of fluctuations in foreign currencies in which PepsiCo conducts business worldwide.

assets and liabilities of other businesses. One of the assets likely acquired is accounts and notes receivable. GAAP requires firms to report the amount of cash used to acquire other businesses, which implicitly includes the net amount of individual assets and liabilities acquired with that cash, in the investing section. PepsiCo alerts the reader to the reason that changes in working capital in the operating section of the statement of cash flows do not equal changes in the corresponding accounts on the comparative balance sheet by using the terms "Changes in operating working capital, *excluding effects of acquisitions and dispositions.*" Very few firms include this qualifying phrase, although it applies to almost all firms each year.

Relation between Net Income and Cash Flow from Operations

What is the relation between net income and cash flow from operations? Should one generally exceed the other or should they be approximately the same over a long time period, and, if so, how long? The answers to these questions relate in part to the economic characteristics of the industry, the firm, and its rate of growth.

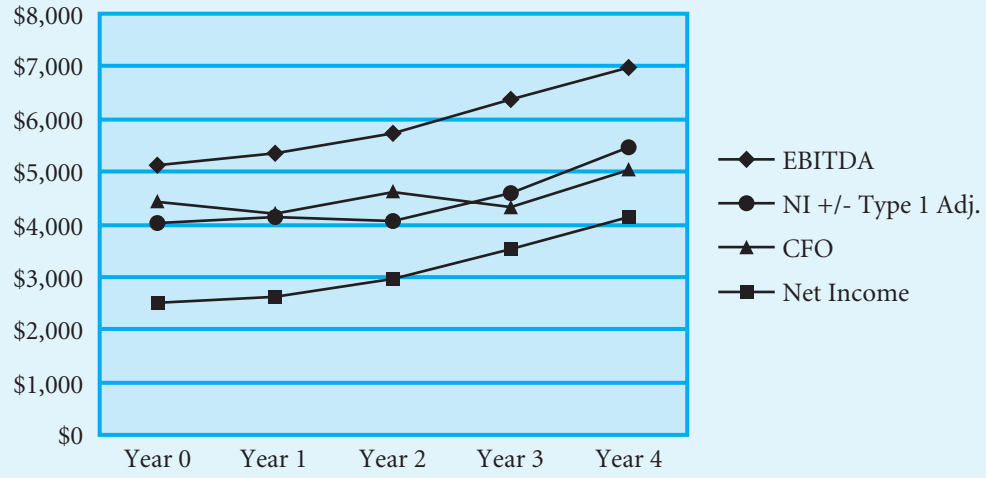
The adjustments to net income for changes in noncurrent assets, noncurrent liabilities, and shareholders' equity accounts (Type 1 adjustments) generally result in net additions to net income instead of net subtractions. Additions for noncash expenses such depreciation, amortization, stock options, and asset impairment and restructuring charges usually exceed subtractions for equity income in excess of dividends received. Thus, one would provisionally expect cash flow from operations to exceed net income. However, the relation between net income and cash flow from operations also depends on changes in operating working capital accounts (Type 2 adjustments).

Firms that are mature and not growing rapidly will report relatively small amounts for changes in operating current asset and current liability accounts. Firms that grow rapidly will report more substantial adjustments for changes in accounts receivable, inventories, and current operating liabilities. If a firm uses current operating liabilities to finance the increases in accounts receivable and inventories, then the adjustments for changes in operating working capital accounts will net to a relatively small amount. Most growing firms, however, expand their accounts receivable and inventories more rapidly than their current operating liabilities and find that the net effect of changes in operating working capital is a subtraction from net income when computing cash flow from operations.

Another factor that may cause cash flow from operations to differ from net income is the length of the operating cycle (see Exhibit 1.9 for a graphic depiction). The operating cycle encompasses the period of time from when a firm commences the manufacture of its products until it receives cash from customers from the sale of the products. Firms such as construction companies and aerospace manufacturers with relatively long operating cycles often experience a lag between when they expend cash for design, development, raw materials, and labor costs and when they receive cash from customers. Unless such firms receive cash advances from their customers prior to completion and delivery of the products or delay payments to their suppliers, the net effect of changes in operating working capital accounts is a subtraction from net income when computing cash flow from operations. (Note in Exhibit 3.1 that cash flow from operations exceeds net income each year for Northrop Grumman primarily because of increases in "progress payments," which represent advances from customers on contracts in process.) The longer the operating cycle and the more rapid the growth of a firm, the larger the difference between net income and cash flow from operations. Firms with short operating cycles, such as restaurants and service firms, experience less of a lag between the creation and delivery of their

EXHIBIT 3.3

Relation between Net Income, Net Income Plus or Minus Type 1 Adjustments, Cash Flow from Operations, and EBITDA for PepsiCo (amounts in millions)



products and the collection of cash from customers. Thus, changes in operating working capital accounts will not cause net income to differ substantially from cash flow from operations.

Exhibit 3.3 shows graphically the relation between net income and cash flow from operations for PepsiCo for Year 0 to Year 4. Cash flow from operations exceeds net income each year, but cash flow from operations shows more variability. To determine whether the variation in cash flow from operations is due to adjustments in noncurrent assets, noncurrent liabilities, and shareholders' accounts (Type 1 adjustments) or to adjustments for operating working capital accounts (Type 2 adjustments), Exhibit 3.3 also graphs net income plus or minus Type 1 adjustments. Note that net income and net income plus or minus Type 1 adjustments portray the same pattern of change over time, suggesting that the variation in cash flow from operations is due primarily to changes in operating working capital accounts. Note also that net income plus or minus Type 1 adjustments and cash flow from operations tend to fluctuate around each other over time, suggesting that net changes in operating working capital accounts net to zero over time. This pattern is not surprising for a relatively mature firm like PepsiCo. We discuss shortly the metric of earnings before interest, taxes, depreciation, and amortization (EBITDA).

A study of the relation between net income, net income plus or minus Type 1 adjustments, and cash flow from operations revealed (1) a high correlation between net income and net income plus or minus Type 1 adjustments, (2) a low correlation between net income and cash flow from operations, and (3) a low correlation between cash flow from

operations and net income plus or minus Type 1 adjustments over time.[6] The empirical results suggest that the patterns portrayed in Exhibit 3.3 for PepsiCo are typical.

Other studies have looked at the information content of net income versus cash flow from operations in predicting future cash flow from operations. As Chapter 12 discusses more fully, future cash flow from operations is an important component of free cash flows, which plays an important role in the valuation of firms. One such study examined the information content of Type 1 and Type 2 adjustments in predicting future cash flow from operations.[7] The study, which referred to Type 1 and Type 2 adjustments as *accruals,* examined the predictive ability of net income versus cash flow from operations plus individual accrual items in predicting future cash flow from operations. The researchers found that individual accrual items had information content. Individual accrual items, coupled with past cash flow from operations, outperformed net income alone as a predictor of future cash flow from operations. Increases in accounts receivable, for example, correlated with increase in future cash flow from operations, thus signaling a growing firm. Increases in depreciation likewise signaled increased future cash flow from operations, thus signaling the building of capacity to support growth.

EBITDA and Cash Flow from Operations

Some analysts use a metric known as *earnings before interest, taxes, depreciation, and amortization* (EBITDA) in their analysis and valuation of firms. The theoretical rationale of using a measure that excludes these four expenses is unclear.

The exclusion of depreciation and amortization adjusts net income for the items that for most firms are the largest Type 1 adjustments in computing cash flow from operations. If a firm is not growing rapidly, then adjustments for changes in operating working capital accounts should be relatively small (as is the case for PepsiCo). EBITDA in this case roughly approximates cash flow from operations. However, if a firm is growing rapidly, EBITDA ignores the additional investments in working capital required to sustain that growth. The exclusion of depreciation expense, without a similar exclusion for rent expense, can create inconsistent treatment of expenses for assets that a firm owns and depreciates versus expenses for "assets" that a firm leases, and it can lead to false comparisons between firms that own and those that lease depreciable assets.

The exclusion of interest expense provides a measure of earnings independent of financing costs. The exclusion of interest in computing EBITDA has an element of logic if the analyst is interested in EBITDA as a crude measure of the firm's ability to pay down debt, or if the analyst uses EBITDA for valuation using a discount rate or earnings multiple that incorporates the cost of both debt and equity capital.

The rationale for the exclusion of income taxes is not clear. Firms that generate positive earnings must pay income taxes just as they must pay suppliers, employees, and other providers of goods and services. Unprofitable firms do not incur income taxes, but in such situations net income becomes a less useful metric anyway.

A reading of analyst reports and the financial literature suggests that analysts view EBITDA as an approximation of a cash-based measure of pretax operating earnings. Its ease of calculation adds to its popularity. The analyst can generally compute its amount quickly and easily by using information on the income statement. Exhibit 3.3 indicates

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[6]Robert M. Bowen, David Burgstahler, and Lane A. Daley, "Evidence on the Relationships between Earnings and Various Measures of Cash Flow," *Accounting Review* (October 1986), pp. 713–725. The authors used the label "working capital from operations" for what we have called "net income plus or minus Type 1 changes."

[7]Mary E. Barth, Donald P. Cram, and Karen K. Nelson, "Accruals and the Prediction of Future Cash Flows," *Accounting Review* (January 2001), pp. 27–58.

for PepsiCo that EBITDA correlates highly with net income and with net income plus or minus Type 1 adjustments, but not with cash flow from operations.

A recent study examined the correlation between market rates of return on common stock and (1) earnings, (2) cash flow from operations, and (3) EBITDA.[8] The study found that stock returns are more highly correlated with earnings than with either cash flow from operations or EBITDA. This finding is not surprising given that earnings are bottom-line measures of profitability. The finding that cash flow from operations has less information content for equity valuation than earnings results from the omission of accruals, which we noted have information content for future cash flows, and from the omission of cash flows related to investing and financing activities. Cash flow from operations is an incomplete measure of cash flows for valuation purposes. EBITDA excludes expenses that are value-relevant for profitable, capital-intensive, leveraged firms.

Given that both net income and cash flow from operations are required disclosures, one wonders why analysts use EBITDA as an approximation of either of these measures. Most fundamentally, EBITDA not only ignores these four expenses discussed previously, but also ignores changes in operating working capital accounts.

Relation between Cash Flows from Operating, Investing, and Financing Activities

A helpful framework for understanding more fully the relation between net income and cash flows is the product life cycle concept from marketing and microeconomics. Individual products (goods or services) move through four more or less identifiable phases: introduction, growth, maturity and decline, as the top panel of Exhibit 3.4 depicts. The length of these phases and the steepness of the revenue curve vary by the type of product. Products subject to rapid technological change, such as semiconductors and computer software, move through these four phases in two to three years. Other products, such as PepsiCo's beverages, can remain in the maturity phase for many years. Although the analyst will experience difficulty pinpointing the precise location of a product on its life cycle curve at any particular time, it is usually possible to identify the phase and whether the product is in the early or later portion of that phase.

The middle panel of Exhibit 3.4 shows the trend of net income over the product life cycle. Net losses usually occur in the introduction and early growth phases because revenues do not cover the cost of designing and launching new products. Net income peaks during the maturity phase and then begins to decline.

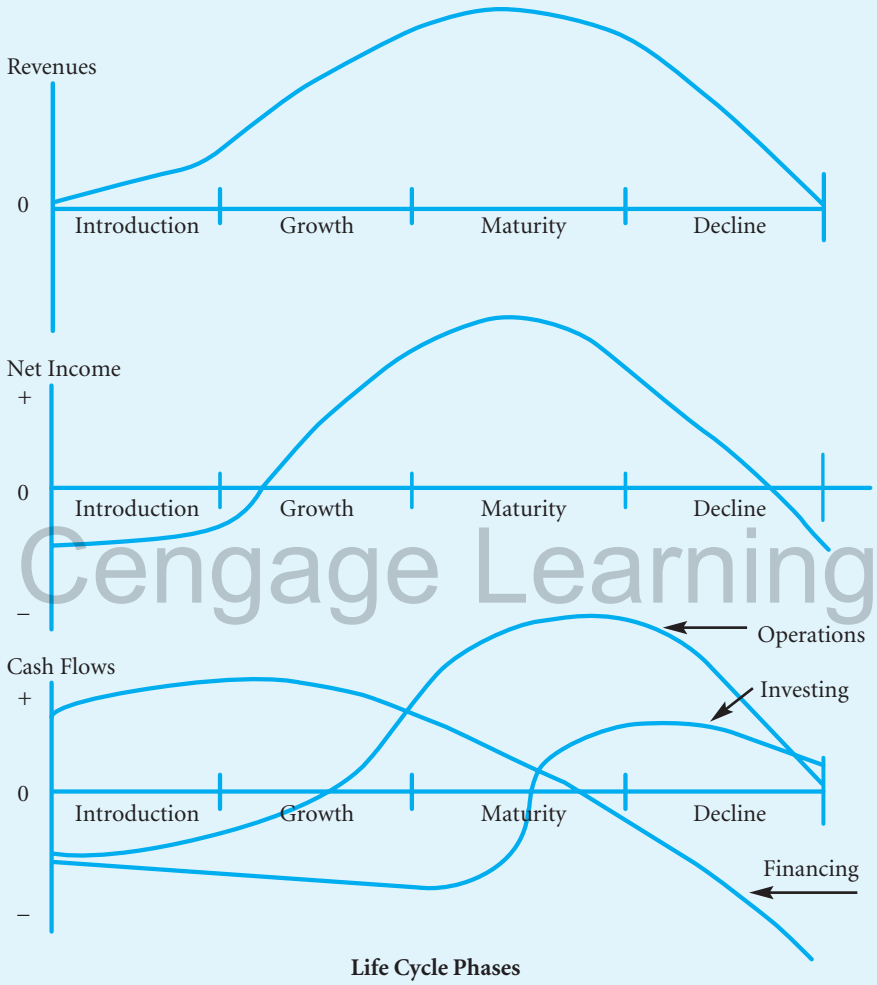
The lower panel of Exhibit 3.4 shows the cash flows from operating, investing, and financing activities during the four life cycle phases. During the introduction and early growth phases, negative cash flow from operations results from the cash outflows needed to launch the product. Negative cash flow from investing activities also occurs during these early phases to build productive capacity. The relative size of this negative cash flow for investing activities depends on the degree of capital intensity of the business. Firms must obtain the cash needed for operating and investing activities during these early phases from external sources (lenders and shareholders).

As the growth phase accelerates, operations become profitable and begin to generate cash. However, firms must use the cash generated to finance accounts receivable and build inventories for expected higher sales levels in the future. Thus, net income usually turns positive earlier than cash flow from operations. The extent of the negative cash flow

[8]Jennifer Francis, Katherine Schipper, and Linda Vincent, "The Relative and Incremental Explanatory Power of Earnings and Alternatives (to Earnings) Performances Measures for Returns," *Contemporary Accounting Research* (Spring 2003), pp. 121–164.

EXHIBIT 3.4

Relation of Revenues, Net Income Flows, and Cash Flows from Operations, Investing, and Financing at Various Stages of Product Life Cycle



from investing activities depends on the rate of growth and the degree of capital intensity. As in the introduction phase, firms obtain most of the cash needed during the growth phase from external sources (a multiproduct firm can use cash generated from products in the maturity phase of their life cycle to finance products in the introduction and growth phases and therefore not need as much external financing).

As products move through the maturity phase, the cash flow pattern changes dramatically. Operations become a net provider of cash, because of both market acceptance of the product and a leveling off of working capital needs. Also, with revenues leveling off, firms invest to maintain rather than increase productive capacity. During the later stages of the maturity phase, net cash flows from sales of unneeded plant assets sometimes

result in a net positive cash flow from investing activities. Firms can use the excess cash flow from operations and, to a lesser extent, from the sale of investments to repay debt incurred during the introduction and growth phases, to pay dividends, and to repurchase their common stock.

During the decline phase, cash flow from operations and investing activities taper off as sales decrease. Firms repay their remaining debt, pay dividends, and repurchase common stock.

The product life cycle model discussed previously provides helpful insights about the relation between sales, net income, and cash flows from operating, investing, and financing activities for a single product. Few business firms, however, rely on a single product; most have a range of products at different stages of their life cycles. Furthermore, the statement of cash flows reports amounts for a firm as a whole and not for each product. If the life cycle concept is to assist in interpreting published statements of cash flows, the analyst needs a multiproduct view.

The analyst obtains such a multiproduct view by aggregating the position of each product in its respective life cycle into a reading on the average life cycle position of the firm. For example, the average position of a firm in technology-driven industries, such as biotechnology, is probably in the growth phase. Although such firms have some products fresh off the drawing board and other products in their decline phase because of the emergence of new technologies, most of these firms' products are in their high-growth phase. Most consumer food companies have an average life cycle position in the maturity phase. Branded consumer food products can remain in their maturity phase for many years with proper product quality control and promotion (consider, for example, PepsiCo's and Coca-Cola's beverages). Such companies continually bring new products to the market and eliminate products that do not meet consumer acceptance, but their average position is probably in the maturity phase. Certain industries in the United States, such as textiles, old-line steel, and automotive, are probably in the early decline phase because of foreign competition and/or outdated technology. Some companies in these industries have built technologically advanced production facilities to compete more effectively on a worldwide basis and have, therefore, essentially reentered the maturity phase. Other firms have diversified into more growth-oriented industries.

Illustrations of Cash Flow Relations

Refer to the statement of cash flows for PepsiCo in Exhibit 3.2. Cash flow from operations exceeds net income each year, primarily as a result of the addback for depreciation and amortization. Changes in operating working capital accounts net to relatively small amounts each year ($305 million in Year 2, $75 million in Year 3, and $313 million in Year 4, for a net change of $83 million (= $305 − $75 − $313) for the three years as a whole. This $83 million net change in working capital is less than 1 percent of total net income or total cash flow from operations for the three years. This small change in working capital is typical of a mature firm.

PepsiCo experienced an excess of cash inflows from operations over cash outflows for investing, a pattern also typical of a mature firm. Thus, PepsiCo did not need external financing for purchases of property, plant, equipment, and corporate acquisitions, but instead used cash from operating activities and excess cash and investments on hand to fund these expenditures. Note that changes in (1) short-term investments and (2) investments with maturities of three months or less appear as investing activities. PepsiCo used the excess cash flow from operations over the cash outflow for investing activities to pay dividends and repurchase shares of its common stock, activities typical of a mature firm.

Exhibits 3.5 to 3.9 present statements of cash flows for firms in five different industries to illustrate the point that a firm's phase in its aggregate product life cycle affects the interpretation of its statement of cash flows. These statements of cash flows also reveal information about the economic characteristics and strategies of these firms.

Overstock.com

Exhibit 3.5 shows a statement of cash flows for Overstock.com (Overstock), an Internet-based retailer of brand-name products purchased from manufacturers and retailers in overstock or liquidation situations. Overstock is in the rapid-growth phase of its life cycle, as indicated by the growth rates in revenue on the last line of Exhibit 3.5. The firm

EXHIBIT 3.5

Overstock.com
Statement of Cash Flows
(amounts in thousands)

	Year 4	Year 3	Year 2
Operations			
Net Income (Loss)	$ (5,002)	$(11,887)	$ (4,560)
Depreciation and Amortization	3,937	2,325	1,873
Other Additions and Subtractions	873	1,022	4,463
Adjustments for Changes in Working Capital:			
(Increase) Decrease in Accounts Receivable	4,468	(3,189)	(5,429)
(Increase) Decrease in Inventories	(24,729)	(17,556)	(7,467)
(Increase) Decrease in Other Current Assets	(1,807)	(666)	(758)
Increase (Decrease) in Accounts Payable	33,697	16,632	10,051
Increase (Decrease) in Other Current Liabilities	13,601	2,907	4,316
Cash Flow from Operations	$ 25,038	$(10,412)	$ 2,489
Investing			
Fixed Assets Acquired	$ (8,714)	$ (6,707)	$ (1,746)
Change in Marketable Securities	(79,106)	10,025	(21,576)
Other Investing Transactions	—	(172)	(5)
Cash Flow from Investing	$(87,820)	$ 3,146	$(23,327)
Financing			
Increase in Long-Term Borrowing	$116,199	$ —	$ 1,160
Issue of Common Stock	117,352	25,195	32,929
Decrease in Long-Term Borrowing	(959)	(141)	(5,921)
Other Financing Transactions	22	(1)	—
Cash Flow from Financing	$232,614	$ 25,053	$ 28,168
Change in Cash	$169,832	$ 17,787	$ 7,330
Cash—Beginning of Year	28,846	11,059	3,729
Cash—End of Year	$198,678	$ 28,846	$ 11,059
Growth in Revenues from Previous Year	107.0%	160.3%	129.4%

operated at a net loss in all three years and generated a negative cash flow from operations in Year 3. It would have reported negative cash flow from operations in Year 2 and Year 4 as well if it had not stretched out payments to its suppliers and other providers of goods and services. Cash flow from operations exceeds net income or net loss, in part because of the addback for depreciation and amortization. In addition, Overstock recognized substantial stock compensation expense in Year 2, increasing the net loss. The stock compensation expense did not use cash, so the firm added it back to net income when computing cash flow from operations (see Other Addbacks and Subtractions for Year 2).

Cash flow from operations was sufficient to finance expenditures on fixed assets in Year 2 and Year 4, although the firm is not highly capital intensive. Overstock issued common stock each year to finance its growth. It also issued long-term debt in the form of convertible notes in Year 4. Because the firm did not immediately use the cash obtained from these financings, it purchased marketable securities in Year 2 and Year 4. It sold marketable securities in Year 3 when it experienced negative cash flow from operations. Note that the firm did not pay dividends, a typical characteristic of a start-up or high-growth firm.

Target Corporation

Exhibit 3.6 presents a statement of cash flows for Target Corporation (Target), a moderately growing discount store and grocery store chain. Cash flow from operations exceeded net income each year, primarily because of the addback of depreciation and amortization. Target increased its accounts payable each year in amounts approximately matching increases in inventories, indicating that it used supplier financing for inventory growth. Cash flow from operations was just sufficient in each year to finance the acquisition of fixed assets. Note that expenditures on new fixed assets exceeded depreciation and amortization each year, consistent with a growing firm. To provide a capital base for future growth, Target increased its long-term borrowing in Year 2 and Year 3. It used the cash generated from the sale of its discontinued department store businesses in Year 4 to repay long-term debt and to reacquire shares of its common stock. These cash flow patterns are typical of a firm in the late high-growth stage of its life cycle.

Johnson & Johnson

Exhibit 3.7 shows the statement of cash flows for Johnson & Johnson (J&J), a pharmaceutical and medical equipment company. Like Target, J&J experienced moderate growth in revenues during the three years. Net income and cash flow from operations experienced similar growth rates. J&J's investments in fixed assets approximately equal depreciation and amortization each year, suggesting that the firm is not growing its fixed assets appreciably. J&J's growth in revenues likely comes primarily from acquisitions of other firms. J&J's cash flow from operations exceeded its acquisitions of fixed assets and other businesses. J&J used the excess cash flow to pay dividends and repurchase its common stock, while still maintaining large cash balances at the end of each year. J&J's cash flow pattern is typical of a mature company, with the growth rates in revenues coming from acquisitions.

American Airlines

Exhibit 3.8 presents a statement of cash flows for American Airlines (American). American's growth in revenues is highly variable. Cash flow from operations exceeded net income in Year 3 and Year 4, and the negative cash flow from operations in Year 2 was not as large as the net loss for the year because of the large addback of depreciation expense. Reporting cash flow from operations significantly in excess of net income is typical of

EXHIBIT 3.6

Target Corporation
Statement of Cash Flows
(amounts in millions)

	Year 4	Year 3	Year 2
Operations			
Income from Continuing Operations	$ 1,885	$ 1,619	$ 1,376
Depreciation and Amortization	1,259	1,098	967
Deferred Tax Provision	233	208	208
Other Additions and Subtractions	479	437	517
Adjustment for Changes in Working Capital:			
(Increase) Decrease in Accounts Receivable	(209)	(279)	(454)
(Increase) Decrease in Inventories	(853)	(579)	(370)
(Increase) Decrease in Other Current Assets	(37)	(196)	13
Increase (Decrease) in Accounts Payable	823	721	545
Increase (Decrease) in Other Current Liabilities	241	184	(77)
Cash Flow from Continuing Operations	$ 3,821	$ 3,213	$ 2,725
Cash Flow from Discontinued Operations	(626)	292	508
Cash Flow from Operations	$ 3,195	$ 3,505	$ 3,233
Investing			
Fixed Assets Sold	$ 56	$ 67	$ 32
Fixed Assets Acquired	(3,068)	(2,738)	(3,040)
Proceeds from Sale of Discontinued Operations	4,881	—	—
Other Investing Transactions	(690)	(538)	(1,768)
Cash Flow from Investing	$ 1,179	$(3,209)	$(4,776)
Financing			
Increase in Short-Term Borrowing	$ —	$ —	$ —
Increase in Long-Term Borrowing	10	1,200	3,116
Issue of Common Stock	146	36	27
Decrease in Short-Term Borrowing	—	(100)	—
Decrease in Long-Term Borrowing	(1,487)	(1,179)	(1,098)
Acquisition of Common Stock	(1,290)	(48)	(3)
Dividends	(272)	(237)	(218)
Other Financing Transactions	56	(10)	(20)
Cash Flow from Financing	$(2,837)	$ (338)	$ 1,804
Change in Cash	$ 1,537	$ (42)	$ 261
Cash—Beginning of Year	708	750	489
Cash—End of Year	$ 2,245	$ 708	$ 750
Growth in Revenues from Previous Year	11.6%	12.1%	12.0%

EXHIBIT 3.7

Johnson & Johnson
Statement of Cash Flows
(amounts in millions)

	Year 4	Year 3	Year 2
Operations			
Net Income	$ 8,509	$ 7,197	$ 6,597
Depreciation and Amortization	2,124	1,869	1,662
Deferred Income Taxes	(498)	(720)	(74)
Other Additions and Subtractions	21	924	183
Adjustments for Changes in Working Capital:			
(Increase) Decrease in Accounts Receivable	(111)	(691)	(510)
(Increase) Decrease in Inventories	11	39	(109)
(Increase) Decrease in Prepayments	(395)	(746)	(1,429)
Increase (Decrease) in Accounts Payable	607	2,192	1,420
Increase (Decrease) in Other Current Liabilities	863	531	436
Cash Flow from Operations	$11,131	$10,595	$ 8,176
Investing			
Fixed Assets Sold	$ 237	$ 335	$ 156
Fixed Assets Acquired	(2,175)	(2,262)	$(2,099)
Acquisition of Businesses	(580)	(2,812)	(478)
Change in Marketable Securities	444	472	430
Other Investing Transactions	(273)	(259)	(206)
Cash Flow from Investing	$(2,347)	$(4,526)	$(2,197)
Financing			
Increase in Short-Term Borrowing	$ 514	$ 3,062	$ 2,359
Increase in Long-Term Borrowing	17	1,023	22
Issue of Common Stock	642	311	390
Decrease in Short-Term Borrowing	(1,291)	(4,134)	(560)
Decrease in Long-Term Borrowing	(395)	(196)	(245)
Acquisition of Common Stock	(1,384)	(1,183)	(6,538)
Dividends	(3,251)	(2,746)	(2,381)
Other Financing Transactions	190	277	110
Cash Flow from Financing	$(4,958)	$(3,586)	$(6,843)
Change in Cash	$ 3,826	$ 2,483	$ (864)
Cash—Beginning of Year	5,377	2,894	3,758
Cash—End of Year	$ 9,203	$ 5,377	$ 2,894
Growth in Revenues from Previous Year	13.1%	15.3%	12.3%

EXHIBIT 3.8

American Airlines
Statement of Cash Flows
(amounts in millions)

	Year 4	Year 3	Year 2
Operations			
Net Income	$ (761)	$(1,228)	$(3,511)
Depreciation and Amortization	1,292	1,377	1,366
Deferred Income Taxes	—	—	(845)
Other Additions and Subtractions	(115)	(525)	1,895
Adjustments for Changes in Working Capital:			
(Increase) Decrease in Accounts Receivable	(89)	690	(66)
(Increase) Decrease in Inventories	8	56	48
Increase (Decrease) in Accounts Payable	(26)	(198)	(32)
Increase (Decrease) in Other Current Liabilities	408	429	34
Cash Flow from Operations	$ 717	$ 601	$(1,111)
Investing			
Fixed Assets Acquired	$(1,027)	$ (680)	$(1,881)
Change in Marketable Securities	(9)	11	512
Other Investing Transactions	(12)	24	(24)
Cash Flow from Investing	$(1,048)	$ (645)	$(1,393)
Financing			
Increase in Long-Term Borrowing	$ 1,977	$ 945	$ 3,190
Issue of Common Stock	7	1	3
Decrease in Long-Term Borrowing	(1,653)	(886)	(687)
Cash Flow from Financing	$ 331	$ 60	$ 2,506
Change in Cash	$ 0	$ 16	$ 2
Cash—Beginning of Year	120	104	102
Cash—End of Year	$ 120	$ 120	$ 104
Growth in Revenues from Previous Year	6.9%	.1%	−8.2%

capital-intensive firms. Although American experienced a positive cash flow from operations in two of the three years, this cash flow was not sufficient to finance capital expenditures. It used long-term debt to finance these acquisitions. Generally speaking, debt is a less costly source of capital than equity because it is less risky and because interest payments to debtholders are tax-deductible whereas dividends payments to equity shareholders are not. The assets acquired serve as collateral for the borrowing, which reduces the risk to the debtholders. The heavy use of debt financing in the capital structure of airlines adds considerable risk for common-equity shareholders.

Kelly Services

Finally, Exhibit 3.9 presents a statement of cash flows for Kelly Services (Kelly), a provider of temporary help services. Revenues of Kelly vary with economic conditions. Year 2 for Kelly occurred during a recession and Years 3 and 4 are years of exiting the recession. The primary source of variation between net income and cash flow from operations is management of working capital, particularly accounts receivable and accrued payroll. A temporary help agency serves as a conduit between clients, with the services of workers giving rise to an accounts receivable for the agency and employees earning compensation giving

EXHIBIT 3.9

Kelly Services
Statement of Cash Flows
(amounts in thousands)

	Year 4	Year 3	Year 2
Operations			
Net Income	$ 22,130	$ 5,110	$ 18,569
Depreciation and Amortization	44,137	47,795	45,428
Deferred Income Taxes	(9,611)	2,936	6,590
Adjustments for Changes in Working Capital:			
(Increase) Decrease in Accounts Receivable	(48,755)	(63,516)	(9,420)
(Increase) Decrease in Prepayments	(6,833)	(5,930)	7,162
Increase (Decrease) in Accounts Payable	3,285	4,727	(4,040)
Increase (Decrease) in Accrued Payroll	46,933	20,490	17,522
Increase (Decrease) in Other Current Liabilities	8,074	18,981	7,795
Cash Flow from Operations	$ 59,360	$ 30,593	$ 89,606
Investing			
Fixed Assets Acquired	$(35,556)	$(30,222)	$(33,406)
Change in Marketable Securities	105	142	31
Other Investing Transactions	(736)	(2,487)	(3,476)
Cash Flow from Investing	$(36,187)	$(32,567)	$(36,851)
Financing			
Increase in Short-Term Borrowing, net	$ (8,188)	$ 10,280	$(11,723)
Issue of Common Stock	8,422	3,865	991
Acquisition of Common Stock	(3)	(26,149)	(13,216)
Dividends	(14,043)	(14,143)	(14,293)
Other Financing Transactions	1,815	3,563	2,961
Cash Flow from Financing	$(11,997)	$(22,584)	$(35,280)
Change in Cash	$ 11,176	$(24,558)	$ 17,475
Cash—Beginning of Year	76,378	100,936	83,461
Cash—End of Year	$ 87,554	$ 76,378	$100,936
Growth in Revenues from Previous Year	15.2%	6.6%	1.3%

rise to accrued payroll. The variations each year in working capital result from differences in the dates for billing clients versus the payroll-ending dates for employees. Kelly has an unusually large addback for depreciation and amortization for a service firm. The depreciation is primarily on its corporate office building and equipment and the amortization is on certain intangibles from corporate acquisitions. Cash flow from operations was sufficient to finance acquisitions of fixed assets each year, typical of a service firm. Kelly used the excess cash flow to reacquire common stock and pay dividends. Note that Kelly relies more on short-term debt financing than on long-term debt financing. Accounts receivable serve as collateral for short-term borrowing. Service firms have relatively few assets that can serve as collateral for long-term borrowing.

These five statements of cash flows present typical patterns for firms in different types of industries and in different stages of their product life cycles. They also illustrate some of the insights that an analyst can derive about the economic characteristics, strategy, and performance of an entity by studying its statement of cash flows.

PREPARING THE STATEMENT OF CASH FLOWS

U.S. GAAP requires firms to include a statement of cash flows in their published financial statements each period.[9] Other countries generally require a similar statement as well. Smaller, privately held firms often prepare just a balance sheet and an income statement.

This section illustrates a procedure for preparing a statement of cash flows using information from the balance sheet and income statement. The implied statement of cash flows that we prepare merely approximates the amounts that the statement of cash flows would report if the analyst had full access to a firm's accounting records. For example, we assume that all changes in operating working capital accounts are operating transactions, even though some of these changes might arise from a corporate acquisition, an investing activity. As another example, consider a firm that acquires another firm by both paying cash and assuming its liabilities. Only the cash outflow appears in the investing section of the statement of cash flows. Acquiring assets by assuming liabilities is a noncash acquisition of assets (that is, assets increase and liabilities increase). Such noncash exchanges do not appear in the statement of cash flows because they do not affect cash. Firms, however, must report them in a supplemental note to the financial statements.[10] PepsiCo includes the disclosures in Note 14, "Supplemental Financial Information" (Appendix A). Absent information about noncash exchanges, the preparation procedure described in this section assumes that all of the change in each account involves a cash flow that relates to one of the three activities reported in the statement of cash flows. Despite these concerns, the estimated amounts should approximate the actual amounts closely enough for the analyst to make meaningful interpretations.

Algebraic Formulation

We know from the accounting equation that:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' Equity}$$

This equality holds for balance sheets at the beginning and end of each period. If we subtract the amounts on the balance sheet at the beginning of the period from the corre-

[9]Financial Accounting Standards Board, *Statement of Financial Accounting Standards No. 95,* "Statement of Cash Flows" (1987).
[10]*Ibid.*, par. 74.

sponding amounts on the balance sheet at the end of the period, we obtain the following equality for changes (Δ) in balance sheet amounts:

$$\Delta \text{ Assets} = \Delta \text{ Liabilities} + \Delta \text{ Shareholders' Equity}$$

We can now expand the change in assets as follows:

$$\Delta \text{ Cash} + \Delta \text{ Noncash Assets} = \Delta \text{ Liabilities} + \Delta \text{ Shareholders' Equity}$$

Rearranging terms:

$$\Delta \text{ Cash} = \Delta \text{ Liabilities} + \Delta \text{ Shareholders' Equity} - \Delta \text{ Noncash Assets}$$

The statement of cash flows explains the reasons for the change in cash during a period. We can see that the change in cash equals the change in all other (noncash) balance sheet amounts.

Refer to Exhibit 3.10, which shows the comparative balance sheet of Logue Shoe Store for the years ending December 31, Year 4, Year 3, and Year 2. The balance sheets at the end of Year 2 and Year 3 report the following equalities:

	Cash	+	Noncash Assets	=	Liabilities	+	Shareholders' Equity
Year 2	$13,698	+	$132,136	=	$105,394	+	$40,440
Year 3	$12,595	+	$129,511	=	$ 85,032	+	$57,074

Subtracting the amounts at the end of Year 2 from the amounts at the end of Year 3, we obtain:

Δ Cash	+	Δ Noncash Assets	=	Δ Liabilities	+	Δ Shareholders' Equity
−$1,103	+	−$2,625	=	−$20,362	+	$16,634

Rearranging terms:

Δ Cash	=	Δ Liabilities	+	Δ Shareholders' Equity	−	Δ Noncash Assets
−$1,103	=	−$20,362	+	$16,634	−	−$2,625

The decrease in cash of $1,103 equals the decrease in liabilities plus the increase in shareholders' equity minus the decrease in noncash assets.

Classifying Changes in Balance Sheet Accounts

The statement of cash flows classifies the reasons for the change in cash as being either an operating, investing, or financing activity. The remaining task then is to classify the change in each noncash balance sheet account (right-hand side of the preceding equation) into one of these three categories. Some of the analyst's classifications in this step will necessarily be approximations. Some of the changes in balance sheet accounts clearly fit into one of the three categories (for example, the change in long-term debt is almost always a financing transaction). However, some balance sheet changes (for example, retained earnings) result from the netting of several changes, some of which relate to operations (net income) and some of which relate to investing or financing (dividends)

EXHIBIT 3.10

Logue Shoe Store
Balance Sheet

	December 31, Year 4	December 31, Year 3	December 31, Year 2
Assets			
Cash	$ 5,815	$ 12,595	$ 13,698
Accounts Receivable	1,816	1,978	1,876
Inventories	123,636	106,022	98,824
Other Current Assets	1,560	—	3,591
Total Current Assets	$132,827	$120,595	$117,989
Property, Plant, and Equipment, at cost	$ 64,455	$ 65,285	$ 63,634
Less Accumulated Depreciation	(54,617)	(45,958)	(37,973)
Net Property, Plant, and Equipment	$ 9,838	$ 19,327	$ 25,661
Intangible Assets	2,184	2,184	2,184
Total Assets	$144,849	$142,106	$145,834
Liabilities and Shareholders' Equity			
Accounts Payable	$ 13,954	$ 15,642	$ 21,768
Notes Payable	10,814	—	—
Current Portion of Long-Term Debt	7,288	10,997	18,256
Other Current Liabilities	5,489	6,912	4,353
Total Current Liabilities	$ 37,545	$ 33,551	$ 44,377
Long-Term Debt	43,788	51,481	61,017
Total Liabilities	$ 81,333	$ 85,032	$105,394
Common Stock	$ 1,000	$ 1,000	$ 1,000
Additional Paid-In Capital	124,000	124,000	124,000
Retained Earnings	(61,484)	(67,926)	(84,560)
Total Shareholders' Equity	$ 63,516	$ 57,074	$ 40,440
Total Liabilities and Shareholders' Equity	$144,849	$142,106	$145,834

activities. The analyst should use whatever information the financial statements and notes provide about changes in balance sheet accounts to classify the net change in each account each period.

Exhibit 3.11 classifies the changes in the noncash balance sheet accounts. The next section discusses the classification of each account.

1. Accounts Receivable

Cash collections from customers during a period equal sales for the period plus accounts receivable at the beginning of the period minus accounts receivable at the end of the period. Thus, the change in accounts receivable clearly relates to operations. Line (18) of Exhibit 3.11 shows net income as a source of cash from operations. Net income includes sales revenue. The amount for sales revenue included in the amount on line (18) plus or

EXHIBIT 3.11

Worksheet for Preparation of Statement of Cash Flows

Balance Sheet Accounts	Amount of Balance Sheet Changes	Operations	Investing	Financing
(Increase) Decrease in Assets				
(1) Accounts Receivable		x		
(2) Marketable Securities			x	
(3) Inventories		x		
(4) Other Current Assets		x		
(5) Investments in Securities			x	
(6) Property, Plant, and Equipment Cost			x	
(7) Accumulated Depreciation		x		
(8) Intangible Assets		x	x	
Increase (Decrease) in Liabilities and Shareholders' Equities				
(9) Accounts Payable		x		
(10) Notes Payable				x
(11) Current Portion of Long-Term Debt				x
(12) Other Current Liabilities		x		
(13) Long-Term Debt				x
(14) Deferred Income Taxes		x		
(15) Other Noncurrent Liabilities				x
(16) Common Stock				x
(17) Additional Paid-In Capital				x
(18) Retained Earnings		x (net income)		x (dividends)
(19) Treasury Stock				x
(20) Cash				

minus the change in accounts receivable on line (1) results in the amount of cash received from customers.

2. Marketable Securities

Firms typically acquire marketable securities when they temporarily have excess cash and sell these securities when they need cash. The holding of marketable securities for a relatively short period might make their purchases and sales appear as operating activities. However, the temporarily excess cash could result from selling fixed assets, from issuing

bonds or common stock, or from operating activities. Likewise, firms might use the cash inflow from the sale of marketable securities to purchase fixed assets, retire debt, repurchase common or preferred stock, or finance operating activities. GAAP in the United States ignores the reason for the excess cash (with which firms purchase marketable securities) and the use of the cash proceeds (from the sale of marketable securities), and classifies the cash flows associated with purchases and sales of marketable securities as investing activities. (The analyst, however, can feel free to reclassify purchases and sales of marketable securities as operating or financing activities if deemed appropriate for purposes of analysis.) Because net income includes gains or losses on sales of marketable securities, the analyst must subtract gains and add back losses to net income in deriving cash flow from operations if purchases and sales are viewed as investing activities. Failure to offset the gain or loss included in earnings results in reporting too much (sales of marketable securities at a gain) or too little (sales of marketable securities at a loss) cash flow from operations. Cash flow from operations should include none of the cash flows associated with sales of marketable securities if such transactions are viewed as investing activities.

3. Inventories

Purchases of inventory during a period equal cost of goods sold for the period plus inventories at the end of the period minus inventories at the beginning of the period. Line (18) includes cost of goods sold as an expense in measuring net income. The change in inventories on line (3) coupled with cost of goods sold included in the amount on line (18) results in the amount of purchases for the period. The presumption at this point is that the firm made a cash outflow equal to the amount of purchases. If the firm does not pay cash for all of these purchases, then accounts payable changes. We adjust for the change in accounts payable on line (9), discussed later.

4. Other Current Assets

This balance sheet account typically includes prepayments for various operating costs such as insurance and rent. Unless the financial statements and notes present information to the contrary, the presumption is that the change in Other Current Assets relates to operations.

5. Investments in Securities

The Investments in Securities account can change for the following possible reasons:

Source of Change	Classification in Statement of Cash Flows
Acquisition of New Investments	Investing (outflow)
Recognition of Income or Loss Using Equity Method	Operations (subtraction or addition)
Receipt of Dividend from Investee	Operations (inflow)
Sale of Investments	Investing (inflow)

If the balance sheet, income statement, or notes provide information that permits the disaggregation of the net change in Investments in Securities into these components, then the analyst can make appropriate classifications of the components. Absent such information, we classify the change in the account as an investing activity.

6. Property, Plant, and Equipment Cost

GAAP classifies the cash flows related to purchases and sales of fixed assets as investing activities. Because net income includes any gains or losses from sales of fixed assets, we offset their effect on earnings by adding back losses and subtracting gains from net income when computing cash flow from operations. We then include the full amount of the proceeds from sales of fixed assets as an investing activity.

7. Accumulated Depreciation

The amount of depreciation expense recognized each period reduces net income but does not use cash. Thus, we add back depreciation expense as an operating item with a positive sign on line (7). When we add the amount for depreciation expense included under operations on line (7) to depreciation expense included as a negative element in net income on line (18), we eliminate the effect of depreciation expense on the Operations column. This treatment is appropriate because depreciation expense is not a cash flow (ignoring income tax consequences). If a firm sells depreciable assets during a period, the net change in accumulated depreciation includes both the accumulated depreciation removed from the account for assets sold and depreciation expense for the period. Thus, the analyst cannot assume that the change in the accumulated depreciation account relates to depreciation expense only, unless disclosures indicate that the firm did not sell depreciable assets during the year.

8. Intangible Assets

Intangible assets on the balance sheet include patents, copyrights, goodwill, and similar assets. A portion of the change in these accounts represents amortization, which requires an addback to net income when computing cash flow from operations. Unless the financial statements and notes provide contrary information, the presumption is that the remaining change in these accounts is an investing activity.

Many firms include another line item on their balance sheets labeled Other Noncurrent Assets. The analyst should use whatever information firms disclose to determine the appropriate classification of the change in this account.

9. Accounts Payable

The cash outflow for accounts payable equals inventory purchases during the period plus accounts payable at the beginning of the period minus accounts payable at the end of the period. We derived the amount for inventory purchases of the period as part of the calculations in line (3) for inventories. The adjustment on line (9) for the change in accounts payable converts purchases to cash payments on purchases and, like inventories, is an operating activity.

10. Notes Payable

Notes payable is the account generally used when a firm engages in short-term borrowing from a bank or other financial institution. GAAP typically classifies such borrowing as a financing activity on the statement of cash flows, even though the firm might use the proceeds to finance accounts receivable, inventories, or other working capital needs. The presumption underlying the classification of bank borrowing as a financing activity is that firms derive operating cash inflows from their customers, not by borrowing from banks.

11. Current Portion of Long-Term Debt

The change in the current portion of long-term debt during a period equals (a) the reclassification of long-term debt from a noncurrent liability to a current liability (that is, debt that the firm expects to repay within one year as of the end-of-the-period balance sheet) minus (b) the current portion of long-term debt actually repaid during the period. The latter amount represents the cash outflow from this financing transaction. We consider shortly the amount arising from the reclassification in connection with line (13).

12. Other Current Liabilities

Firms generally use this account for obligations related to goods and services used in operations other than purchases of inventories. Thus, changes in Other Current Liabilities appear as operating activities.

13. Long-Term Debt

This account changes for the following reasons:

- Issuance of new long-term debt.
- Reclassification of long-term debt from a noncurrent to a current liability.
- Retirement of long-term debt.
- Conversion of long-term debt to preferred or common stock.

These items are clearly financing transactions but they do not all affect cash. The issuance of new debt and the retirement of old debt do affect cash flows. The reclassification of long-term debt included in the amount on line (13) offsets the corresponding amount included in the change on line (11) and they effectively cancel each other. This is appropriate because the reclassification does not affect cash flow. Likewise, any portion of the change in long-term debt on line (13) due to a conversion of debt into common stock offsets a similar change on lines (16) and (17). The analyst enters reclassifications and conversions of debt, such as those described previously, on the worksheet for the preparation of a statement of cash flows, because such transactions help explain changes in balance sheet accounts. However, these transactions do not appear on the formal statement of cash flows because they do not involve actual cash flows.

14. Deferred Income Taxes

Income taxes currently payable equal income tax expense (included on line (18) as a negative element of net income) plus or minus the change in deferred taxes during the period. Thus, changes in Deferred Income Taxes appear as an operating activity.

15. Other Noncurrent Liabilities

This account includes unfunded pension or retirement benefit obligations, long-term deposits received, and other miscellaneous long-term liabilities. Changes in pension and retirement benefit obligations are operating activities. Absent information to the contrary, however, we classify the change in other noncurrent liability accounts as financing activities.

16 and 17. Common Stock and Additional Paid-In Capital

These accounts change when a firm issues new common stock or repurchases and retires outstanding common stock, and they appear as financing activities. The additional paid-in capital account also changes when firms recognize compensation expense related to

stock options (discussed in Chapter 9). This is a noncash expense that, like depreciation, requires an addback to net income when computing cash flow from operations.

18. Retained Earnings

Retained earnings increase by the amount of net income and decrease with the declaration of dividends each period. Net income is an operating activity and dividends are a financing activity.

19. Treasury Stock

Repurchasing a firm's outstanding capital stock is a financing activity.

Illustration of the Preparation Procedure

We illustrate the procedure for preparing the statement of cash flows using the data for Logue Shoe Store in Exhibit 3.10. Net income was $16,634 for Year 3 and $6,442 for Year 4.

Exhibit 3.12 presents the worksheet for Year 3. The first column shows the change in each noncash balance sheet account that nets to the $1,103 decrease in cash for the

EXHIBIT 3.12

Worksheet for Statement of Cash Flows for Logue Shoe Store
Year 3

Balance Sheet Accounts	Amount of Balance Sheet Changes	Operations	Investing	Financing
(Increase) Decrease in Assets				
Accounts Receivable	$ (102)	$ (102)		
Inventories	(7,198)	(7,198)		
Other Current Assets	3,591	3,591		
Property, Plant, and Equipment	(1,651)		$(1,651)	
Accumulated Depreciation	7,985	7,985		
Intangible Assets	—			
Increase (Decrease) in Liabilities and Shareholders' Equities				
Accounts Payable	$(6,126)	$(6,126)		
Notes Payable	—			—
Current Portion of Long-Term Debt	(7,259)			$ (7,259)
Other Current Liabilities	2,559	2,559		
Long-Term Debt	(9,536)			(9,536)
Common Stock	—			—
Additional Paid-In Capital	—		—	—
Retained Earnings	16,634	16,634		
Cash	$(1,103)	$17,343	$(1,651)	$(16,795)

period. One should observe with particular care the direction of the change. Recall from the earlier equation:

Δ Cash	=	Δ Liabilities	+	Δ Shareholders' Equity	−	Δ Noncash Assets
Increase	=	Increase				
Decrease	=	Decrease				
Increase	=			Increase		
Decrease	=			Decrease		
Decrease	=					Increase
Increase	=					Decrease

Thus, changes in liabilities and shareholders' equity have the same directional effect on cash, whereas changes in noncash assets have the opposite directional effect. Bank borrowings increase liabilities and cash; debt repayments decrease liabilities and cash. Issuing common stock increases shareholders' equity and cash; paying dividends or repurchasing outstanding common stock reduces shareholders' equity and cash. Purchasing equipment increases noncash assets and reduces cash; selling equipment reduces noncash assets and increases cash.

We classify the change in each account as an operating, investing, or financing activity, because we have no information that more than one activity caused the change in the account. Observe the following for Year 3:

1. Operating activities were a net source of cash for the period. Cash flow from operations approximately equaled net income. Logue Shoe Store increased its inventories but reduced accounts payable. Most firms attempt to increase accounts payable to finance increases in inventories. The reduced accounts payable suggests either a desire to pay more quickly, perhaps to take advantage of cash discounts, or pressure from suppliers to pay more quickly.
2. Cash flow from operations was more than sufficient to finance the increase in property, plant, and equipment. Note that capital expenditures were small relative to the amount of depreciation for the year, suggesting that the firm was now increasing its capacity.
3. Logue Shoe Store used the cash derived from operations in excess of capital expenditures to repay long-term debt.

Exhibit 3.13 presents a worksheet for Year 4. The preparation procedure is identical to that in Exhibit 3.12. Note in this case that operations were a net user of cash. The increase in accounts payable did not match the substantial increase in inventories. Long-term debt was again redeemed in Year 4, but it appears that the firm used short-term bank borrowing to finance the redemption. The negative cash flow from operations coupled with the use of short-term debt to redeem long-term debt suggests an increase in short-term liquidity risk.

Exhibit 3.14 presents the statement of cash flows for Logue Shoe Store for Year 3 and Year 4 using the amounts taken from the worksheets in Exhibits 3.12 and 3.13.

SUMMARY

As a complement to the balance sheet and the income statement, the statement of cash flows is an informative statement for analysts for the following reasons:

1. Analysts that understand the types of information that this statement presents and the kinds of interpretations that are appropriate find that the statement of cash

EXHIBIT 3.13

Worksheet for Statement of Cash Flows for Logue Shoe Store
Year 4

Balance Sheet Accounts	Amount of Balance Sheet Changes	Operations	Investing	Financing
(Increase) Decrease in Assets				
Accounts Receivable	$ 162	$ 162		
Inventories	(17,614)	(17,614)		
Other Current Assets	(1,560)	(1,560)		
Property, Plant, and Equipment	830		$830	
Accumulated Depreciation	8,659	8,659		
Intangible Assets	—			
Increase (Decrease) in Liabilities and Shareholders' Equities				
Accounts Payable	$(1,688)	$(1,688)		
Notes Payable	10,814			$10,814
Current Portion of Long-Term Debt	(3,709)			(3,709)
Other Current Liabilities	(1,423)	(1,423)		
Long-Term Debt	(7,693)			(7,693)
Common Stock	—			—
Additional Paid-In Capital	—		—	—
Retained Earnings	6,442	6,442	—	—
Cash	$(6,780)	$(7,022)	$830	$ (588)

flows reveals information about the economic characteristics of a firm's industry, its strategy, and the stage in its life cycle.

2. The statement of cash flows provides information to assess the financial health of a firm. Analysts increasingly recognize that cash flows do not necessarily track income flows. A firm with a healthy income statement is not necessarily financially healthy. Cash requirements to service debt, for example, may outstrip the ability of operations to generate cash.
3. The statement of cash flows permits the calculation of free cash flows, an important factor in the valuation of firms.

QUESTIONS, EXERCISES, PROBLEMS, AND CASES

Questions and Exercises

3.1 NEED FOR A STATEMENT OF CASH FLOWS. "The accrual basis of accounting creates the need for a statement of cash flows." Explain.

EXHIBIT 3.14

Statement of Cash Flows for Logue Shoe Store

	Year 4	Year 3
Operations		
Net Income	$ 6,442	$ 16,634
Depreciation	8,659	7,985
(Increase) Decrease in Accounts Receivable	162	(102)
(Increase) Decrease in Inventories	(17,614)	(7,198)
(Increase) Decrease in Other Current Assets	(1,560)	3,591
Increase (Decrease) in Accounts Payable	(1,688)	(6,126)
Increase (Decrease) in Other Current Liabilities	(1,423)	2,559
Cash Flow from Operations	$ (7,022)	$ 17,343
Investing		
Sale (Acquisition) of Property, Plant, and Equipment	$ 830	$ (1,651)
Financing		
Increase in Notes Payable	$ 10,814	—
Repayment of Long-Term Debt	$(11,402)	$(16,795)
Cash Flow from Financing	$ (588)	$(16,795)
Net Change in Cash	$ (6,780)	$ (1,103)
Cash at Beginning of Year	12,595	13,698
Cash at End of Year	$ 5,815	$ 12,595

3.2 CLASSIFICATION OF CASH FLOWS RELATED TO BORROWING. The statement of cash flows classifies cash expenditures for interest expense as an operating activity but classifies cash expenditures to redeem debt as a financing activity. Explain this apparent paradox.

3.3 CLASSIFICATION OF CASH FLOWS RELATED TO THE COST OF FINANCING. The statement of cash flows classifies cash expenditures for interest expense on debt as an operating activity but classifies cash expenditures for dividends to shareholders as a financing activity. Explain this apparent paradox.

3.4 CLASSIFICATION OF CHANGES IN SHORT-TERM FINANCING. The statement of cash flows classifies changes in accounts payable as an operating activity but classifies changes in short-term borrowing as a financing activity. Explain this apparent paradox.

3.5 TREATMENT OF NONCASH EXCHANGES. The acquisition of equipment by assuming a mortgage is a transaction that firms cannot report in their statement of cash flows but must report in a supplemental schedule or note. Of what value is infor-

mation about this type of transaction? What is the reason for its exclusion from the statement of cash flows?

3.6 COMPUTING CASH COLLECTIONS FROM CUSTOMERS. Caterpillar manufactures heavy machinery and equipment and provides financing for purchases by its customers. Caterpillar reported sales and interest revenues of $30,251 million for Year 4. The balance sheet showed current and noncurrent receivables of $18,987 million at the beginning of Year 4 and $23,308 million at the end of Year 4. Compute the amount of cash collected from customers during Year 4.

3.7 COMPUTING CASH PAYMENTS TO SUPPLIERS. Lowe's Companies, a retailer of home improvement products, reported cost of goods sold of $24,165 million for Year 4. It reported merchandise inventories of $4,584 million at the beginning of Year 4 and $5,982 million at the end of Year 4. It reported accounts payable to suppliers of $2,212 million at the beginning of Year 4 and $2,687 million at the end of Year 4. Compute the amount of cash paid to merchandise suppliers during Year 4.

3.8 COMPUTING CASH PAYMENTS FOR INCOME TAXES. Radio Shack, a retailer of electronics products, reported income tax expense for Year 4 of $204.9 million, comprising $166.3 million of current taxes and $38.6 million of deferred taxes. The balance sheet showed income taxes payable of $137.5 million at the beginning of Year 4 and $117.5 million at the end of Year 4. Compute the amount of income taxes paid in cash during Year 4.

3.9 INTERPRETING RELATIONS BETWEEN NET INCOME AND CASH FLOW FROM OPERATIONS. Combined data for three years for two firms appear here (in millions):

	Firm A	Firm B
Net Income	$2,381	$2,825
Cash Flow from Operations	$1,133	$7,728

One of these firms is Amazon.com, a rapidly growing Internet retailer, and the other is Kroger, a retail grocery store chain growing at the growth rate in the population. Indicate which firm is which and explain your reasoning.

3.10 INTERPRETING RELATIONS BETWEEN NET INCOME AND CASH FLOW FROM OPERATIONS. Combined data for three years for two firms appear here (in millions):

	Firm A	Firm B
Net Income	$ 996	$2,846
Cash Flow from Operations	$3,013	$3,401

The two firms experienced similar growth rate in revenues during the three-year period. One of these firms is Accenture, Ltd., a management consulting firm, and the other is Southwest Airlines, a provider of airline transportation services. Indicate which firm is which and explain your reasoning.

3.11 INTERPRETING RELATIONS BETWEEN CASH FLOWS FROM OPERATING, INVESTING, AND FINANCING ACTIVITIES. Combined data for three years of two firms appear here (in millions):

	Firm A	Firm B
Net Income	$ 2,378	$ 2,399
Cash Flow from Operations	$ 7,199	$ 3,400
Cash Flow from Investing	$(6,764)	$ (678)
Cash Flow from Financing	$ 570	$(2,600)

One of these firms is FedEx, a relatively high-growth firm that provides courier services, and the other is Kellogg, a more mature consumer foods processor. Indicate which firm is which and explain your reasoning.

3.12 INTERPRETING RELATIONS BETWEEN CASH FLOWS FROM OPERATING, INVESTING, AND FINANCING ACTIVITIES. Combined data for three years of two firms appear here (in millions):

	Firm A	Firm B
Cash Flow from Operations	$ 2,639	$ 2,759
Cash Flow from Investing	$(3,491)	$(1,281)
Cash Flow from Financing	$ 1,657	$(1,654)

One of these firms is eBay, an online retailer with a three-year growth in sales of 337.3 percent, and the other is TJX Corporation, a specialty retail store with a three-year growth in sales of 39.3 percent. Indicate which firm is which and explain your reasoning.

3.13 RELATION BETWEEN NET INCOME, EBITDA, AND CASH FLOW FROM OPERATIONS. Selected data for The Walt Disney Company appear here (in millions):

	Year 4	Year 3	Year 2	Year 1
Net Income	$2,345	$1,267	$1,236	$1,169
Conversion of Net Income to Cash Flow from Operations:				
Type 1 Adjustments	2,076	1,370	1,077	2,124
Type 2 Adjustments	(51)	264	(27)	(245)
Cash Flow from Operations	$4,370	$2,901	$2,286	$3,048
EBITDA	$5,554	$4,106	$3,919	$3,759
Growth Rate in Revenues	13.6%	6.8%	.6%	(.6%)

Prepare a graph similar to Exhibit 3.3 that shows net income, net income plus Type 1 adjustments, cash flow from operations, and EBITDA. Comment on the relations between these series over time.

Problems and Cases

3.14 INTERPRETING THE STATEMENT OF CASH FLOWS. The Coca-Cola Company (Coca-Cola), like PepsiCo, manufactures and markets a variety of beverages. Exhibit 3.15 presents a statement of cash flows for Coca-Cola for Year 0 to Year 4.

Required

Discuss the relationship between net income and cash flow from operations and between cash flows from operating, investing, and financing activities for the firm over the five-year period. Identify characteristics of Coca Cola's cash flows that one would expect for a mature company.

3.15 INTERPRETING THE STATEMENT OF CASH FLOWS. Texas Instruments primarily develops and manufactures semiconductors for use in technology-based products for various industries. The manufacturing process is capital intensive and subject to cyclical swings in the economy. Because of overcapacity in the industry and a cutback on spending for technology products due to a recession, semiconductor prices collapsed in Year 1 and commenced a steady comeback between Year 2 and Year 4. Exhibit 3.16 presents a statement of cash flows for Texas Instruments for Year 0 to Year 4.

Required

Discuss the relationship between net income and cash flows from operations and between cash flows from operating, investing, and financing activities for the firm over the five-year period.

3.16 INTERPRETING THE STATEMENT OF CASH FLOWS. The Gap operates chains of retail clothing stores under the names of The Gap, Banana Republic, and Old Navy. Exhibit 3.17 presents the statement of cash flows for The Gap for Year 0 to Year 4.

Required

Discuss the relationship between net income and cash flow from operations and between cash flows from operating, investing, and financing activities for the firm over the five-year period.

3.17 INTERPRETING THE STATEMENT OF CASH FLOWS. XM Satellite Radio, which launched its satellite radio service in Year 1, is the leading satellite radio service provider in the United States, with more than 3.2 million subscribers at the end of Year 4. The firm generally receives subscription fees in advance of providing subscription services. Its lineup includes 150 channels, including sixty-five music channels, thirty news and talk show channels, thirty-one sports channels, and twenty-one traffic and weather channels. XM Satellite Radio is the official satellite radio of Major League Baseball and also broadcasts football and basketball games. The firm markets its services to 100 million households and 200 million registered vehicles in the United States. General Motors and Honda, two of the firm's investors, offer XM Satellite Radio service on

EXHIBIT 3.15

The Coca-Cola Company
Statement of Cash Flows
(amounts in millions)
(Problem 3.14)

	Year 4	Year 3	Year 2	Year 1	Year 0
Operations					
Net Income	$ 4,847	$ 4,347	$ 3,976	$ 3,969	$ 3,093
Depreciation and Amortization	893	850	806	803	773
Equity Income, net of dividends	(476)	(294)	(256)	(54)	380
Deferred Income Taxes	162	(188)	40	56	3
Stock Compensation	345	422	365	41	43
Other Additions (Subtractions)	814	487	218	(243)	145
(Increase) Decrease in Accounts Receivable	(5)	80	(83)	(73)	(39)
(Increase) Decrease in Inventories	(57)	111	(49)	(17)	(2)
(Increase) Decrease in Prepayments	(397)	(276)	74	(349)	(618)
Increase (Decrease) in Accounts Payable	45	(164)	(442)	(179)	(84)
Increase (Decrease) in Other Current Liabilities	(203)	81	93	156	(109)
Cash Flow from Operations	$ 5,968	$ 5,456	$ 4,742	$ 4,110	$ 3,585
Investing					
Fixed Assets Sold	$ 341	$ 87	$ 69	$ 91	$ 45
Fixed Assets Acquired	(755)	(812)	(851)	(769)	(733)
Acquisition of Bottlers	(267)	(359)	(544)	(651)	(397)
Change in Marketable Securities	115	(30)	102	(1)	(218)
Other Investing Transactions	63	178	159	142	138
Cash Flow from Investing	$ (503)	$ (936)	$(1,065)	$(1,188)	$(1,165)
Financing					
Increase in Long-Term Borrowing	$ 3,030	$ 1,026	$ 1,622	$ 3,011	$ 3,671
Issue of Common Stock	193	98	107	164	331
Decrease in Long-Term Borrowing	(1,316)	(1,119)	(2,378)	(3,937)	(4,256)
Acquisition of Common Stock	(1,739)	(1,440)	(691)	(277)	(133)
Dividends	(2,429)	(2,166)	(1,987)	(1,791)	(1,685)
Other	141	183	44	(45)	(140)
Cash Flow from Financing	$(2,120)	$(3,418)	$(3,283)	$(2,875)	$(2,212)
Change in Cash	$ 3,345	$ 1,102	$ 394	$ 47	$ 208
Cash—Beginning of Year	3,362	2,260	1,866	1,819	1,611
Cash—End of Year	$ 6,707	$ 3,362	$ 2,260	$ 1,866	$ 1,819
Change in Sales from Previous Year	+4.4%	+7.6%	+11.5%	− 4.4%	+3.5%

EXHIBIT 3.16

Texas Instruments
Statement of Cash Flows
(amounts in millions)
(Problem 3.15)

	Year 4	Year 3	Year 2	Year 1	Year 0
Operations					
Net Income (Loss)	$ 1,861	$1,198	$ (344)	$ (201)	$ 3,087
Depreciation and Amortization	1,549	1,528	1,689	1,828	1,376
Deferred Income Taxes	68	75	13	19	1
Other Additions (Subtractions)	(179)	(469)	709	(68)	(2,141)
(Increase) Decrease in Accounts Receivable	(238)	(197)	(114)	958	(377)
(Increase) Decrease in Inventories	(272)	(194)	(39)	482	(372)
(Increase) Decrease in Prepayments	134	(183)	191	(235)	56
Increase (Decrease) in Accounts Payable	(71)	264	(81)	(687)	246
Increase (Decrease) in Other Current Liabilities	294	129	(32)	(277)	309
Cash Flow from Operations	$ 3,146	$2,151	$ 1,992	$ 1,819	$ 2,185
Investing					
Fixed Assets Acquired	$(1,298)	$ (800)	$ (802)	$(1,790)	$(2,762)
Change in Marketable Securities	145	86	(238)	164	834
Acquisition of Businesses	(8)	(128)	(69)	—	(3)
Other Investing Transactions	—	—	—	—	107
Cash Flow from Investing	$(1,161)	$ (842)	$(1,109)	$(1,626)	$(1,824)
Financing					
Increase in Short-Term Borrowing	$ —	$ —	$ 9	$ —	$ 23
Increase in Long-Term Borrowing	—	—	—	3	250
Issue of Common Stock	192	157	167	183	242
Decrease in Short-Term Borrowing	(6)	(8)	(16)	(3)	(19)
Decrease in Long-Term Borrowing	(429)	(418)	(22)	(132)	(307)
Acquisition of Common Stock	(753)	(284)	(370)	(395)	(155)
Dividends	(154)	(147)	(147)	(147)	(141)
Other Financing Transactions	15	260	14	(16)	(290)
Cash Flow from Financing	$(1,135)	$ (440)	$ (365)	$ (507)	$ (397)
Change in Cash	$ 850	$ 869	$ 518	$ (314)	$ (36)
Cash—Beginning of Year	1,818	949	431	745	781
Cash—End of Year	$ 2,668	$1,818	$ 949	$ 431	$ 745
Change in Sales from Previous Year	+27.9%	+17.3%	+2.2%	−30.9%	−1.9%

EXHIBIT 3.17

The Gap
Statement of Cash Flows
(amounts in millions)
(Problem 3.16)

	Year 4	Year 3	Year 2	Year 1	Year 0
Operations					
Net Income (Loss)	$ 1,150	$ 1,031	$ 478	$ (8)	$ 877
Depreciation	620	675	706	811	590
Other Additions and Subtractions	(28)	180	166	30	92
(Increase) Decrease in Inventories	(90)	385	(258)	213	(455)
(Increase) Decrease in Prepayments	(18)	5	33	(13)	(61)
Increase (Decrease) in Accounts Payable	42	(10)	(47)	42	250
Increase (Decrease) in Other Current Liabilities	(56)	(106)	165	243	(3)
Cash Flow from Operations	$ 1,620	$ 2,160	$1,243	$1,318	$ 1,290
Investing					
Fixed Assets Acquired	$ (442)	$ (261)	(308)	(940)	(1,859)
Changes in Marketable Securities	259	(2,063)	(313)	—	—
Other Investing Transactions	343	6	(8)	(11)	(16)
Cash Flow from Investing	$ 160	$(2,318)	$ (629)	$ (951)	$(1,875)
Financing					
Increase in Short-Term Borrowing	$ —	$ —	$ —	$ —	$ 621
Increase in Long-Term Borrowing	—	85	1,346	1,194	250
Issue of Capital Stock	130	26	153	139	152
Decrease in Short-Term Borrowing	—	0	(42)	(735)	—
Decrease in Long-Term Borrowing	(871)	(668)	—	(250)	—
Acquisition of Capital Stock	(976)	—	—	(1)	(393)
Dividends	(79)	(79)	(78)	(76)	(75)
Other Financing Transactions	—	28	27	(11)	(11)
Cash Flow from Financing	$(1,796)	$ (608)	$1,406	$ 260	$ 544
Change in Cash	$ (16)	$ (766)	$2,020	$ 627	$ (41)
Cash—Beginning of Year	2,261	3,027	1,007	380	421
Cash—End of Year	$ 2,245	$ 2,261	$3,027	$1,007	$ 380
Change in Sales from Previous Year	+2.6%	+9.7%	+4.4%	+1.3%	+17.5%

selected automobiles. Exhibit 3.18 presents a statement of cash flows for XM Satellite Radio for Year 2, Year 3, and Year 4.

Required

Discuss the relation between net loss and cash flow from operations and the pattern of cash flow from operating, investing, and financing activities during the three years.

EXHIBIT 3.18

XM Satellite Radio
Statement of Cash Flows
(amounts in thousands)
(Problem 3.17)

	Year 4	Year 3	Year 2
Operations			
Net Loss	$(650,033)	$(589,759)	$(491,585)
Depreciation and Amortization	145,775	156,927	117,202
Amortization of Deferred Financing Fees	17,676	15,496	4,479
Stock-Based Compensation	2,020	3,003	1,507
Interest on Zero Coupon Bonds	53,222	45,227	—
Deferred Income Taxes	27,317	—	—
Loss on Conversion of Notes	66,279	29,904	—
Impairment of Goodwill	—	—	11,461
Other Additions and Subtractions	3,203	1,414	163
(Increase) Decrease in Accounts Receivable	(8,407)	(11,480)	(3,772)
(Increase) Decrease in Prepayments	(381)	(7,095)	4,189
Increase (Decrease) in Accounts Payable	52,657	80,496	25,940
Increase in Payable to Deferred Revenue	98,463	41,587	11,242
Increase (Decrease) in Other Current Liabilities	85,317	13,009	31,132
Cash Flow from Operations	$(106,892)	$(221,271)	$(288,042)
Investing			
Fixed Assets Acquired	$(142,449)	$ (18,335)	$ (68,437)
Change in Marketable Securities	119	22,750	54,343
Insurance Proceeds	133,924	—	—
Other Investing Transactions	—	2,272	—
Cash Flow from Investing	$ (8,406)	$ 6,687	$ (14,094)
Financing			
Issue of Common Stock	$ 304,846	$ 11,768	$ 249,150
Increase in Long-Term Borrowing	200,000	293,132	—
Decrease in Long-Term Borrowing	(272,430)	(2,722)	(2,440)
Other Financing Transactions	(4,816)	(4,101)	(216)
Cash Flow from Financing	$ 227,600	$ 298,077	$ 246,494
Change in Cash	$ 112,302	$ 83,493	$ (55,642)
Cash—Beginning of Year	90,219	6,726	62,368
Cash—End of Year	$ 202,521	$ 90,219	$ 6,726
Growth in Revenues from Previous Year	+166.7%	354.8%	3,686.3%

3.18 INTERPRETING THE STATEMENT OF CASH FLOWS. Sunbeam Corporation manufactures and sells a variety of small household appliances, including toasters, food processors, and waffle grills. Exhibit 3.19 presents a statement of cash flows for Sunbeam for Year 5, Year 6, and Year 7. After experiencing decreased sales in Year 5,

EXHIBIT 3.19

Sunbeam Corporation
Statement of Cash Flows
(amounts in millions)
(Problem 3.18)

	Year 7	Year 6	Year 5
Operations			
Net Income (Loss)	$109.4	$(228.3)	$ 50.5
Depreciation and Amortization	38.6	47.4	44.2
Restructuring and Asset Impairment Charges	—	283.7	—
Deferred Income Taxes	57.8	(77.8)	25.1
Other Additions	13.7	46.2	10.8
Other Subtractions	(84.6)	(27.1)	(21.7)
(Increase) Decrease in Accounts Receivable	(84.6)	(13.8)	(4.5)
(Increase) Decrease in Inventories	(100.8)	(11.6)	(4.9)
(Increase) Decrease in Prepayments	(9.0)	2.7	(8.8)
Increase (Decrease) in Accounts Payable	(1.6)	14.7	9.2
Increase (Decrease) in Other Current Liabilities	52.8	(21.9)	(18.4)
Cash Flow from Operations	$ (8.3)	$ 14.2	$ 81.5
Investing			
Fixed Assets Acquired	$(58.3)	$ (75.3)	$(140.1)
Sale of Businesses	91.0	—	65.3
Acquisitions of Businesses	—	(.9)	(33.0)
Cash Flow from Investing	$ 32.7	$ (76.2)	$(107.4)
Financing			
Increase (Decrease) in Short-Term Borrowing	$ 5.0	$ 30.0	$ 40.0
Increase in Long-Term Debt	—	11.5	—
Issue of Common Stock	26.6	9.2	9.8
Decrease in Long-Term Debt	(12.2)	(1.8)	(5.4)
Acquisition of Common Stock	—	—	(13.0)
Dividends	(3.4)	(3.3)	(3.3)
Other Financing Transactions	.5	(.4)	(.2)
Cash Flow from Financing	$ 16.5	$ 45.2	$ 27.9
Change in Cash	$ 40.9	$ (16.8)	$ 2.0
Cash—Beginning of Year	11.5	28.3	26.3
Cash—End of Year	$ 52.4	$ 11.5	$ 28.3
Growth in Revenues from Previous Year	18.7%	−3.2%	−2.6%

Sunbeam hired Albert Dunlap in Year 6 try to turn the company around. Albert Dunlap, known in the industry as "Chainsaw Al," had directed restructuring efforts at Scott Paper Company previously. The restructuring effort at Sunbeam generally involved firing employees and cutting costs aggressively. Most of these restructuring efforts took place

during Year 6. The market expected significantly improved results in Year 7. Reported sales increased 18.7 percent between Year 6 and Year 7 and net income improved. However, subsequent revelations showed that almost half of the sales increase resulted from recognizing revenues in the fourth quarter of Year 7 that the firm should have recognized in the first quarter of Year 8.

Required

a. Using information in the statement of cash flows for Year 5, identify any signals that Sunbeam was experiencing operating difficulties and in need of restructuring.
b. Using information in the statement of cash flows for Year 6, identify indicators of the turnaround efforts and any relations between cash flows that trouble you.
c. Using information in the statement of cash flows for Year 7, indicate any signals that the firm might have overstated its revenues and had not yet fixed its operating problems.

3.19 INTERPRETING THE STATEMENT OF CASH FLOWS. Montgomery Ward operates a retail department store chain. It filed for bankruptcy during the first quarter of Year 12. Exhibit 3.20 presents a statement of cash flows for Montgomery Ward for Year 7 to Year 11. The firm acquired Lechmere, a discount retailer of sporting goods and electronic products, during Year 9. It acquired Amoco Enterprises, an automobile club, during Year 11. During Year 10, it issued a new series of preferred stock and used the cash proceeds in part to repurchase a series of outstanding preferred stock. The "other subtractions" in the operating section for Year 10 and Year 11 represent reversals of deferred tax liabilities.

Required

Discuss the relationship between net income and cash flow from operations and between cash flows from operating, investing, and financing activities for the firm over the five-year period. Identify signals of Montgomery Ward's difficulties that might have led to its filing for bankruptcy.

3.20 IDENTIFYING INDUSTRY DIFFERENCES IN STATEMENT OF CASH FLOWS. Exhibit 3.21 presents common-size statements of cash flows for eight firms in various industries. All amounts in the common-size statements of cash flows are expressed as a percentage of cash flow from operations. To construct the common-size percentages for each firm, reported amounts for each firm for three consecutive years were summed and the common-size percentages are based on the summed amounts. This procedure reduces the effects of a nonrecurring item in a particular year, such as a major debt or common stock issue. Exhibit 3.21 also shows the compound annual rate of growth in revenues over the three-year period. The eight companies are as follows:

1. Biogen: creates and manufactures biotechnology drugs. Many drugs are still in the development phase in this high-growth, relatively young industry. Research and manufacturing facilities are capital intensive, although the research process requires skilled scientists.
2. ChevronTexaco: explores, extracts, refines, and markets petroleum products. Extraction and refining activities are capital intensive. Petroleum products are in the mature phase of their product life cycles.

EXHIBIT 3.20

Montgomery Ward
Statement of Cash Flows
(amounts in millions)
(Problem 3.19)

	Year 11	Year 10	Year 9	Year 8	Year 7
Operating					
Net Income	$(237)	$ (9)	$ 109	$ 101	$ 100
Depreciation	122	115	109	98	97
Other Addbacks	13	8	24	25	32
Other Subtractions	(197)	(119)	(29)	—	—
(Increase) Decrease in Accounts Receivable	(32)	(54)	(38)	(9)	9
(Increase) Decrease in Inventories	225	(112)	(229)	(204)	(38)
(Increase) Decrease in Prepayments	27	(32)	(39)	(58)	36
Increase (Decrease) in Accounts Payable	(222)	85	291	148	(17)
Increase (Decrease) in Other Current Liabilities	(55)	(64)	(45)	28	(64)
Cash Flow from Operations	$(356)	$(182)	$ 153	$ 129	$ 155
Investing					
Fixed Assets Acquired	$ (75)	$(122)	$(184)	$(142)	$(146)
Change in Marketable Securities	20	(14)	(4)	(27)	137
Other Investing Transactions	(93)	27	(113)	6	9
Cash Flow from Investing	$(148)	$(109)	$(301)	$(163)	$—
Financing					
Increase in Short-Term Borrowing	$ 588	$ 16	$ 144	$ —	$—
Increase in Long-Term Borrowing	—	205	168	100	—
Issue of Capital Stock	3	193	78	1	1
Decrease in Short-Term Borrowing	—	—	—	—	—
Decrease in Long-Term Borrowing	(63)	(17)	(275)	(18)	(403)
Acquisition of Capital Stock	(20)	(98)	(9)	(11)	(97)
Dividends	(9)	(4)	(24)	(23)	(19)
Other	—	—	1	2	2
Cash Flow from Financing	$ 499	$ 295	$ 83	$ 51	$(516)
Change in Cash	$ (5)	$ 4	$ (65)	$ 17	$(361)
Cash—Beginning of Year	37	33	98	81	442
Cash—End of Year	$ 32	$ 37	$ 33	$ 98	$ 81
Change in Sales from Previous Year	−10.0%	−.5%	+17.2%	+3.7%	+2.0%

3. H. J. Heinz: manufactures and markets branded consumer food products. Heinz has acquired several other branded food products companies in recent years.
4. Home Depot: retails home improvement products. Home Depot competes in a new retail category known as "category killer" stores. Such stores offer a wide selection of products in a particular product category (for example, books, pet products, office products). These stores have taken significant market share away from the more diversified department and discount stores in recent years.
5. Inland Steel: manufactures steel products. Although steel plants are capital intensive, they also use unionized workers to process iron into steel products. Demand for steel products follows cyclical trends in the economy. Steel manufacturing in the United States is in the mature phase of its life cycle.
6. Pacific Gas & Electric: provides electric and gas utility services. The electric utility industry in the United States has excess capacity. Increased competition from less regulated, more open markets has forced down prices and led some utilities to reduce their capacity.
7. ServiceMaster: provides home cleaning and restoration services. ServiceMaster has recently acquired firms offering cleaning services for health care facilities and broadened its home services to include termite protection, garden care, and other services. ServiceMaster operates as a partnership. Partnerships do not pay income taxes on their earnings each year. Instead, partners (owners) include their share of the earnings of ServiceMaster in their taxable income.
8. Sun Microsystems: creates, manufactures, and markets computers, primarily to the scientific and engineering markets and to network applications. Sun follows an assembly strategy in manufacturing computers, outsourcing the components from various other firms worldwide. Sun has been rumored to be a takeover target by larger technology companies in recent years.

Required

Use whatever clues you can to match the companies in Exhibit 3.21 with the companies listed here. Discuss the reasoning for your selection in each case.

3.21 PREPARING A STATEMENT OF CASH FLOWS FROM BALANCE SHEETS AND INCOME STATEMENTS. Fuso Pharmaceutical Industries develops, manufactures, and markets pharmaceutical products in Japan. Its main product is a solution used by individuals with artificial kidneys. Most individuals in Japan are covered by a national health insurance system. The Japanese government sets the policies for the proportion of health care costs covered by the government versus the proportion that is the responsibility of the individual. The government also establishes the prices for prescription drugs. The Japanese economy experienced recessionary conditions in recent years. In response to these conditions, the Japanese government increased the proportion of medical costs that is the patient's responsibility and lowered the prices for prescription drugs. Exhibit 3.22 presents the firm's balance sheets on March 31 of Year 1 to Year 4, and Exhibit 3.23 presents the firm's income statements for the years ending March 31, Year 2 to Year 4.

Required

a. Prepare a worksheet for the preparation of a statement of cash flows for Fuso Pharmaceutical Industries for each of the years ending March 31, Year 2 to Year 4.

EXHIBIT 3.21

Common-Size Statements of Cash Flows for Selected Companies (Problem 3.20)

	1	2	3	4	5	6	7	8
Operations								
Net Income	34.9%	38.6%	40.9%	45.4%	61.2%	62.4%	76.5%	97.6%
Depreciation	47.9	55.2	62.9	37.7	46.0	22.3	38.0	23.3
Other	3.1	24.3	5.1	(5.0)	9.4	11.6	2.3	3.9
(Increase) Decrease in Accounts Receivable	6.5	(4.8)	(.6)	(12.4)	(34.2)	(7.8)	(6.8)	(8.5)
(Increase) Decrease in Inventories	1.5	(15.1)	(1.2)	(14.4)	(11.9)	(3.1)	(7.4)	(58.4)
Increase (Decrease) in Accounts Payable	1.5	3.1	(5.6)	12.4	3.0	2.9	12.6	39.9
Increase (Decrease) in Other Current Liabilities	4.6	(1.3)	(1.5)	36.3	26.5	11.7	(15.2)	2.2
Cash Flow from Operations	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Investing								
Fixed Assets Acquired	(37.1%)	(64.0%)	(81.1%)	(165.7%)	(44.7%)	(13.4%)	(39.3%)	(153.4%)
Change in Marketable Securities	—	—	(2.8)	(75.1)	(14.8)	(3.5)	5.9	(17.5)
Other Investing Transactions	(7.7)	8.5	16.4	(28.4)	(15.9)	(17.3)	(40.6)	23.2
Cash Flow from Investing	(44.8%)	(55.5%)	(67.5%)	(269.2%)	(75.4%)	(34.2%)	(74.0%)	(147.7%)
Financing								
Change in Short-Term Debt	(.6%)	—	(7.4%)	—	(2.4%)	—	7.9%	—
Increase in Long-Term Debt	19.5	41.4%	8.4	75.7%	—	33.1%	24.0	46.9%
Issue of Capital Stock	11.2	9.9	—	82.5	17.7	1.7	6.7	13.5
Decrease in Long-Term Debt	(36.0)	(85.0)	(9.1)	(2.7)	(7.0)	(27.6)	(3.1)	(1.2)
Repurchase of Capital Stock	(18.9)	(1.5)	(.1)	—	(50.7)	(21.4)	(26.9)	—
Dividends	(29.5)	(10.9)	(29.9)	—	—	(46.1)	(43.5)	(11.5)
Other Financing Transactions	—	—	(.2)	—	—	.6	9.8	1.9
Cash Flow from Financing	(54.3%)	(46.1%)	(38.3%)	155.5%	(42.4%)	(59.7%)	(25.1%)	49.6%
Net Change in Cash	.9%	(1.6%)	(5.8%)	13.7%	(17.8%)	6.1%	.9%	1.9%
Growth in Revenues	(3.6%)	5.7%	5.7%	23.0%	18.2%	7.7%	8.6%	28.3%

EXHIBIT 3.22

Fuso Pharmaceutical Industries
Balance Sheets
(amounts in millions of yen)
(Problem 3.21)

March 31:	Year 4	Year 3	Year 2	Year 1
Assets				
Cash	¥ 6,233	¥ 4,569	¥ 4,513	¥ 5,008
Accounts and Notes Receivable—Trade	19,003	17,828	19,703	19,457
Inventories	7,693	7,948	8,706	8,607
Deferred Income Taxes	1,355	1,192	948	824
Prepayments	432	325	640	634
Total Current Assets	¥34,716	¥31,862	¥34,510	¥34,530
Investments	3,309	2,356	3,204	4,997
Property, Plant, and Equipment, at cost	71,792	71,510	71,326	71,018
Less Accumulated Depreciation	(40,689)	(38,912)	(36,854)	(35,797)
Deferred Income Taxes	236	1,608	1,481	494
Other Assets	4,551	3,904	3,312	3,463
Total Assets	¥73,915	¥72,328	¥76,979	¥78,705
Liabilities and Shareholders' Equity				
Accounts and Notes Payable—Trade	¥10,087	¥ 9,629	¥10,851	¥10,804
Notes Payable to Banks	10,360	10,328	9,779	10,023
Current Portion of Long-Term Debt	100	200	—	—
Other Current Liabilities	7,200	6,170	9,779	7,565
Total Current Liabilities	¥27,747	¥26,327	¥30,409	¥28,392
Long-Term Debt	8,140	7,889	6,487	8,147
Deferred Income Taxes	3,361	—	—	—
Employee Retirement Benefits	809	905	1,087	1,166
Other Noncurrent Liabilities	175	174	200	216
Total Liabilities	¥40,232	¥35,295	¥38,183	¥37,921
Common Stock	¥10,758	¥10,758	¥10,758	¥10,758
Additional Paid-In Capital	15,012	15,012	15,012	15,012
Retained Earnings	9,179	11,838	13,697	15,014
Accumulated Other Comprehensive Income	(342)	(490)	(659)	—
Treasury Stock	(924)	(85)	(12)	—
Total Shareholders' Equity	¥33,683	¥37,033	¥38,796	¥40,784
Total Liabilities and Shareholders' Equity	¥73,915	¥72,328	¥76,979	¥78,705

Follow the format of Exhibit 3.11 in the text. Notes to the financial statements indicate the following:

(1) The changes in Accumulated Other Comprehensive Income relate to revaluations of Investments in Securities to market value. The remaining changes in

EXHIBIT 3.23

Fuso Pharmaceutical Industries
Income Statements
(amounts in millions of yen)
(Problem 3.21)

Year Ended March 31:	Year 4	Year 3	Year 2
Sales	¥ 41,352	¥ 41,926	¥ 44,226
Cost of Goods Sold	(27,667)	(27,850)	(28,966)
Selling and Administrative Expenses	(13,396)	(15,243)	(15,283)
Interest Expense	(338)	(364)	(368)
Income Tax Expense	(1,823)	443	34
Net Income	¥ (1,872)	¥ (1,088)	¥ (357)

Investments in Securities result from purchases and sales. Assume that the sales occurred at no gain or loss.

(2) There were no sales of property, plant, and equipment during the three-year period.

(3) The changes in Other Noncurrent Assets are investing activities.

(4) The changes in Employee Retirement Benefits relate to provisions made for retirement benefits net of payments made to retired employees, both of which the statement of cash flows classifies as operating activities.

(5) The changes in Other Noncurrent Liabilities are financing activities.

b. Prepare a comparative statement of cash flows for Year 2, Year 3, and Year 4.

c. Discuss the relation between net income and cash flow from operations, and the pattern of cash flows from operating, investing, and financing transactions for Year 2, Year 3, and Year 4.

3.22 PREPARING A STATEMENT OF CASH FLOWS FROM BALANCE SHEETS AND INCOME STATEMENTS.

Flight Training Corporation is a privately held firm that provides fighter pilot training under contracts with the U.S. Air Force and the U.S. Navy. The firm owns approximately 100 Lear jets that it equips with radar jammers and other sophisticated electronic devices to mimic enemy aircraft. The company recently experienced cash shortages to pay its bills. The owner and manager of Flight Training Corporation stated: "I was just dumbfounded. I never had an inkling that there was a problem with cash."

Exhibit 3.24 presents comparative balance sheets for Flight Training Corporation on December 31, Year 1 through Year 4, and Exhibit 3.25 presents income statements for Year 2 through Year 4.

Required

a. Prepare a worksheet for the preparation of a statement of cash flows for Flight Training Corporation for each of the years ending December 31, Year 2 through

EXHIBIT 3.24

Flight Training Corporation
Balance Sheets
(amounts in thousands)
(Problem 3.22)

December 31:	Year 4	Year 3	Year 2	Year 1
Current Assets				
Cash	$ 159	$ 583	$ 313	$ 142
Accounts Receivable	6,545	4,874	2,675	2,490
Inventories	5,106	2,514	1,552	602
Prepayments	665	829	469	57
Total Current Assets	$ 12,475	$ 8,800	$ 5,009	$ 3,291
Noncurrent Assets				
Property, Plant, and Equipment	$106,529	$76,975	$24,039	$17,809
Less Accumulated Depreciation	(17,231)	(8,843)	(5,713)	(4,288)
Net	$ 89,298	$68,132	$18,326	$13,521
Other Assets	$ 470	$ 665	$ 641	$ 1,112
Total Assets	$102,243	$77,597	$23,976	$17,924
Current Liabilities				
Accounts Payable	$ 12,428	$ 6,279	$ 993	$ 939
Notes Payable	—	945	140	1,021
Current Portion of Long-Term Debt	60,590	7,018	1,789	1,104
Other Current Liabilities	12,903	12,124	2,423	1,310
Total Current Liabilities	$ 85,921	$26,366	$ 5,345	$ 4,374
Noncurrent Liabilities				
Long-Term Debt	$ —	$41,021	$ 9,804	$ 6,738
Deferred Income Taxes	—	900	803	—
Other Noncurrent Liabilities	—	—	226	—
Total Liabilities	$ 85,921	$68,287	$16,178	$11,112
Shareholders' Equity				
Common Stock	$ 34	$ 22	$ 21	$ 20
Additional Paid-In Capital	16,516	5,685	4,569	4,323
Retained Earnings	(29)	3,802	3,208	2,469
Treasury Stock	(199)	(199)	—	—
Total Shareholders' Equity	$ 16,322	$ 9,310	$ 7,798	$ 6,812
Total Liabilities and Shareholders' Equity	$102,243	$77,597	$23,976	$17,924

EXHIBIT 3.25

Flight Training Corporation
Comparative Income Statement
(amounts in thousands)
(Problem 3.22)

Year Ended December 31:	Year 4	Year 3	Year 2
Continuing Operations			
Sales	$54,988	$36,597	$20,758
Expenses			
Cost of Services	47,997	29,594	14,247
Selling and Administrative	5,881	2,972	3,868
Interest	5,841	3,058	1,101
Income Taxes	(900)	379	803
Total Expenses	$58,819	$36,003	$20,019
Net Income	$ (3,831)	$ 594	$ 739

Year 4. Follow the format of Exhibit 3.11 in the text. Notes to the financial statements indicate the following:

(1) The firm did not sell any aircraft during the three-year period.
(2) Changes in Other Noncurrent Assets are investing transactions.
(3) Changes in Deferred Income Taxes are operating transactions.
(4) Changes in Other Noncurrent Liabilities and Treasury Stock are financing transactions.
(5) The firm violated covenants in its borrowing agreements during Year 4. The lenders can therefore require Flight Training Corporation to repay its long-term debt immediately. Although the banks have not yet demanded payment, the firm reclassified its long-term debt as a current liability.

b. Prepare a comparative statement of cash flows for Flight Training Corporation for each of the years ending December 31, Year 2 through Year 4.

c. Comment on the relation between net income and cash flow from operations and the pattern of cash flows from operating, investing, and financing activities for each of the three years.

d. Describe the likely reasons for the cash flow difficulties of Flight Training Corporation.

3.23 PREPARING A STATEMENT OF CASH FLOWS FROM BALANCE SHEETS AND INCOME STATEMENTS. GTI, Inc. manufactures parts, components, and processing equipment for electronics and semiconductor applications in the communications, computer, automotive, and appliance industries. Its sales tend to vary with changes in the business cycle because the sales of most of its customers are cyclical. Exhibit 3.26 presents balance sheets for GTI as of December 31, Year 7 through Year 9, and Exhibit 3.27 presents income statements for Year 8 and Year 9.

EXHIBIT 3.26

GTI, Inc.
Balance Sheets
(amounts in thousands)
(Problem 3.23)

December 31:	Year 9	Year 8	Year 7
Assets			
Cash	$ 367	$ 475	$ 430
Accounts Receivable	2,545	3,936	3,768
Inventories	2,094	2,966	2,334
Prepayments	122	270	116
Total Current Assets	$5,128	$ 7,647	$ 6,648
Property, Plant, and Equipment, net	4,027	4,598	3,806
Other Assets	456	559	193
Total Assets	$9,611	$12,804	$10,647
Liabilities and Shareholders' Equity			
Accounts Payable	$ 796	$ 809	$ 1,578
Notes Payable to Banks	2,413	231	11
Other Current Liabilities	695	777	1,076
Total Current Liabilities	$3,904	$ 1,817	$ 2,665
Long-Term Debt	2,084	4,692	2,353
Deferred Income Taxes	113	89	126
Total Liabilities	$6,101	$ 6,598	$ 5,144
Preferred Stock	$ 289	$ 289	$ —
Common Stock	85	85	83
Additional Paid-In Capital	4,395	4,392	4,385
Retained Earnings	(1,259)	1,440	1,035
Total Shareholders' Equity	$3,510	$ 6,206	$ 5,503
Total Liabilities and Shareholders' Equity	$9,611	$12,804	$10,647

Required

a. Prepare a worksheet for the preparation of a statement of cash flows for GTI, Inc. for Year 8 and Year 9. Follow the format of Exhibit 3.11 in the text. Notes to the firm's financial statements reveal the following (amounts in thousands):
- **(1)** Depreciation expense was $641 in Year 8 and $625 in Year 9. GTI, Inc. did not sell any fixed assets during Year 8 and Year 9.
- **(2)** Other Assets represents patents. Patent amortization was $25 in Year 8 and $40 in Year 9. GTI, Inc. sold a patent during Year 9 at no gain or loss.
- **(3)** Changes in Deferred Income Taxes are operating transactions.

b. Discuss the relation between net income and cash flow from operations, and the pattern of cash flows from operating, investing, and financing activities.

EXHIBIT 3.27

GTI, Inc.
Income Statements
(amounts in thousands)
(Problem 3.23)

Year Ended December 31:	Year 9	Year 8
Sales	$11,960	$ 22,833
Cost of Goods Sold	(11,031)	(16,518)
Selling and Administrative Expenses	(3,496)	(4,849)
Interest Expense	(452)	(459)
Income Tax Expense	328	(590)
Net Income	$ (2,691)	$ 417
Dividends on Preferred Stock	(8)	(12)
Net Income Available to Common	$ (2,699)	$ 405

INTEGRATIVE CASE 3.1

STARBUCKS

Exhibit 3.28 presents a statement of cash flows for Starbucks for Year 2, Year 3, and Year 4. This statement is an expanded version of the statement of cash flows for Starbucks in Exhibit 1.26.

Required

a. Explain why equity in income of investees appears as a subtraction when converting net income to cash flow from operations.

b. Compute the amount of cash received from investees as dividends each year. To respond to this question, you will need to refer to the income statement of Starbucks in Exhibit 1.25 in Chapter 1 (Integrative Case 1.1).

c. Explain why stock options appears as an addition to net income when computing cash flow from operations.

d. Discuss the relation between net income and cash flow from operations for each of the three years.

e. Discuss the relation between cash flows from operating, investing, and financing activities for each of the three years.

f. Refer to the income statement for Starbucks in Exhibit 1.25 in Chapter 1 (Integrative Case 1.1). Compute the amount of EBITDA for Year 2, Year 3, and Year 4.

g. Prepare a graph that portrays EBITDA, net income plus Type 1 adjustments, cash flow from operations, and net income. Discuss the relationships between the patterns of these four measures for the three years.

EXHIBIT 3.28

Starbucks Corporation
Comparative Statements of Cash Flows
(amounts in millions)
(Integrative Case 3.1)

Year Ended September 30:	Year 4	Year 3	Year 2
Operations			
Net Income	$ 390.6	$ 266.8	$ 211.4
Depreciation and Amortization	314.0	266.3	226.3
Asset Impairments and Disposals	13.6	7.8	26.9
Deferred Income Taxes	(3.8)	(6.8)	(6.9)
Equity in Income of Investees	(33.4)	(22.8)	(19.6)
Stock Options	63.4	36.6	44.2
Other Adjustments	11.5	5.9	(13.5)
Changes in Operating Working Capital:			
(Increase) Decrease in Receivables	(25.7)	(16.9)	(7.2)
(Increase) Decrease in Inventories	(77.7)	(64.8)	(41.4)
(Increase) Decrease in Prepayments	9.1	4.0	(5.3)
Increase (Decrease) in Accounts Payable	27.9	25.0	5.5
Increase (Decrease) in Other Current Liabilities	130.5	85.9	76.0
Cash Flow from Operations	$ 820.0	$ 587.0	$ 496.4
Investing			
Marketable Securities and Investments Sold	$ 354.6	$ 269.6	$ 223.1
Acquisition of Property, Plant, and Equipment	(412.5)	(378.0)	(394.3)
Marketable Securities and Investments Purchased	(566.6)	(323.3)	(340.0)
Other Investing	(33.9)	(88.2)	7.0
Cash Flow from Investing	$(658.4)	$(519.9)	$(504.2)
Financing			
Issue of Common Stock	$ 137.6	$ 107.2	$ 107.5
Decrease in Long-Term Borrowing	(.7)	(.7)	(.7)
Acquisition of Common Stock	(203.4)	(75.7)	(52.2)
Other Financing	3.1	3.3	1.6
Cash Flow from Financing	$ (63.4)	$ 34.1	$ 56.2
Change in Cash	$ 98.2	$ 101.2	$ 48.4
Cash, Beginning of Year	200.9	99.7	51.3
Cash, End of Year	$ 299.1	$ 200.9	$ 99.7

CASE 3.2

PRIME CONTRACTORS

Prime Contractors (Prime) is a privately owned company that contracts with the U.S. government to provide various services under multiyear (usually five-year) contracts. Its principal services are as follows:

Refuse: Picks up and disposes of refuse from military bases.
Shuttle: Provides parking and shuttle services on government-sponsored research campuses.
Animal Care: Provides feeding and veterinary care for animals used in research at government-sponsored facilities.

Prime's sales mix for the years ending September 30, Year 6 to Year 10, is as follows:

	Refuse Services	Shuttle Services	Animal Care Services
Year 6	59.9%	40.1%	—
Year 7	48.5%	31.2%	20.3%
Year 8	20.7%	22.0%	57.3%
Year 9	11.4%	26.9%	61.7%
Year 10	7.1%	22.5%	70.4%

As the sales mix data indicate, Prime engaged in a strategic shift beginning in Year 7. It began to exit the refuse-services business and geared up its animal-care services business. Exhibit 3.29 presents a statement of cash flows for Prime for Year 6 to Year 10.

Required

a. What evidence do you see in Exhibit 3.29 of Prime's strategic shift from refuse services to animal-care services?
b. Discuss how Prime's net income could decline between Year 6 and Year 8 while its cash flow from operations increased.
c. Discuss how Prime's net income could increase between Year 8 and Year 10 while its cash flow from operations decreased.
d. What is the likely reason that the adjustment for deferred income taxes when converting net income to cash flow from operations was an addition in Year 6 to Year 8 but a subtraction in Year 9 and Year 10?
e. Explain why gains on the disposition of fixed assets appear as a subtraction from net income when computing cash flow from operations.
f. Prime increased its long-term debt net in Year 6 and Year 7 but decreased it net in Year 8 to Year 10. What is the likely reason for this shift in financing?

EXHIBIT 3.29

Prime Contractors
Statement of Cash Flows
(amounts in thousands)
(Case 3.2)

	Year 10	Year 9	Year 8	Year 7	Year 6
Operations					
Net Income	$ 568	$ 474	$ 47	$ 249	$ 261
Depreciation	595	665	827	616	306
Deferred Income Taxes	(139)	(110)	55	180	159
Loss (Gain) on Disposition of Fixed Assets	(82)	(178)	—	—	20
Other Additions and Subtractions	(4)	(19)	(52)	(7)	2
(Increase) Decrease in Accounts Receivable	62	(865)	(263)	(647)	(1,421)
(Increase) Decrease in Other Current Assets	19	(9)	(40)	(26)	(38)
Increase (Decrease) in Accounts Payable	(174)	(272)	(33)	(177)	507
Increase (Decrease) in Other Current Liabilities	(310)	926	423	100	268
Cash Flow from Operations	$ 535	$ 612	$ 964	$ 288	$ 64
Investing					
Fixed Assets Sold	$ 146	$ 118	$ —	$ —	$ 80
Fixed Assets Acquired	(15)	(19)	(56)	(911)	(2,003)
Other Investing Transactions	37	—	—	62	(17)
Cash Flow from Investing	$ 168	$ 99	$ (56)	$(849)	$(1,940)
Financing					
Increase Decrease in Short-Term Borrowing	$ 324	$ 12	$ (127)	$ 276	$ 204
Increase in Long-Term Borrowing	—	—	208	911	1,987
Decrease in Long-Term Borrowing	(960)	(742)	(1,011)	(658)	(423)
Cash Flow from Financing	$(634)	$(730)	$ (930)	$ 529	$ 1,768
Change in Cash	$ 69	$ (19)	$ (22)	$ (32)	$ (108)
Cash—Beginning of Year	6	25	47	79	187
Cash—End of Year	$ 75	$ 6	$ 25	$ 47	$ 79
Change in Sales from Previous Year	+15.5%	+18.0%	+38.5%	+47.1%	+53.5%

CASE 3.3

W. T. GRANT COMPANY[11]

When it filed for bankruptcy in October 1975, W. T. Grant (Grant) was the seventeenth largest retailer in the United States, with almost 1,200 stores, more than 82,000 employees, and sales of $1.7 billion. It had paid dividends consistently since 1906. The collapse of Grant came largely as a surprise to the capital markets, particularly to the banks that provided short-term working capital loans. Grant had altered its business strategy in the mid-1960s to transform itself from an urban discount store chain to a suburban housegoods store chain. Its failure serves as a classic study of poor implementation of what seemed like a sound business strategy. What happened to Grant, and why, are questions that, with some analysis, can be answered. On the other hand, why the symptoms of Grant's prolonged illness were not diagnosed and treated earlier is difficult to understand.

The Strategic Shift

Prior to the mid-1960s, Grant built its reputation on sales of low-priced soft goods (clothing, linens, sewing fabrics). It placed its stores in large, urban locations and appealed primarily to lower-income consumers.

The mid-1960s marked the beginning, however, of urban unrest and a movement to the suburbs. To service the needs of these new homeowners, suburban shopping centers experienced rapid growth. Sears led the way in this movement, establishing itself as the anchor store in many of the more upscale locations. Montgomery Ward and JCPenney followed suit. At this time, Sears held a dominant market share in the middle-income consumer market. It saw an opportunity, however, to move its product line more upscale to compete with the established department stores (Macy's, Marshall Field), which had not yet begun their move to the suburbs. To implement this new strategy, Sears introduced its Sears Best line of products.

The outward population move to the suburbs and increased competition from growing discount chains such as Kmart caused Grant to alter its strategy as well. One aspect of this strategic shift was rapid expansion of new stores into suburban shopping centers. Between 1963 and 1973, Grant opened 612 new stores and expanded ninety-one others. It concentrated most of that expansion in the 1969–1973 period when it opened 369 new stores, fifteen on one particularly busy day. Because Grant's reputation had been built on sales to lower-income consumers, it was often unable to locate its new stores in the choicest shopping centers. Louis C. Lustenberger, president of Grant from 1959 to 1968, started the expansion program, although later, as a director, he became concerned over dimensions of the growth and the problems it generated. After Lustenberger stepped down, the pace of expansion accelerated under the leadership of Chairman Edward Staley and President Richard W. Mayer.

A second aspect of Grant's strategy involved a change in its product line. Grant perceived a vacuum in the middle-income consumer market when Sears moved more upscale. Grant introduced a higher-quality, medium-priced line of products into its new

[11]This case was coauthored with Professor James A. Largay.

shopping center stores to fill this vacuum. In addition, it added furniture and private-brand appliances to its product line and implemented a credit card system. With much of the move to the suburbs representing middle-income consumers, Grant attempted to position itself as a primary supplier to outfit the new homes being constructed.

To implement this new strategy, Grant chose a decentralized organizational structure. Each store manager controlled credit extension and credit terms. At most stores, Grant permitted customers thirty-six months to pay for their purchases; the minimum monthly payment was $1, regardless of total purchases. Bad-debt expenses averaged 1.2 percent of sales each year until fiscal 1975, when a provision of $155.7 million was made. Local store managers also made inventory and pricing decisions. Merchandise was either acquired from regional Grant warehouses or ordered directly from the manufacturer. At this time, Grant did not have an information system in place that permitted one store to check the availability of a needed product from another store. Compensation of employees was considered among the most generous in the industry, with most employees owning shares of Grant's common stock acquired under employee stock option plans. Compensation of store managers included salary plus stated percentages of the store's sales and profits.

To finance the expansion of receivables and inventory, Grant used commercial paper, bank loans, and trade credit. To finance the expansion of store space, Grant entered into leasing arrangements. Because Grant was liquidated before the Financial Accounting Standards Board issued *Statement of Financial Accounting Standards No. 13,* requiring the capitalization of capital leases on the balance sheet and the disclosure of information on operating leases in the notes to the financial statements, it did not disclose its long-term leasing arrangements. Property, plant, and equipment reported on its balance sheet consisted mostly of store fixtures. Grant's long-term debt included debentures totaling $200 million issued in 1971 and 1973. Based on per-square-foot rental rates at the time, Grant's disclosures of total square footage of space, and an 8 percent discount rate, the estimated present values of Grant's leases are as follows (in thousands):

January 31	Present Value of Lease Commitments	January 31	Present Value of Lease Commitments
1966	$394,291	1971	$496,041
1967	$400,090	1972	$626,052
1968	$393,566	1973	$708,666
1969	$457,111	1974	$805,785
1970	$486,837	1975	$821,565

Advance and Retreat—The Attempt to Save Grant

By 1974, it became clear that Grant's problems were not of a short-term operating nature. In the spring of 1974, both Moody's and Standard & Poor's eliminated their credit rating for Grant's commercial paper. Banks entered the picture in a big way in the summer of 1974. To provide financing, a group of 143 banks agreed to offer lines of credit totaling $525 million. Grant obtained a short-term loan of $600 million in September 1974, with three New York money center banks absorbing approximately $230

million of the total. These three banks also loaned $50 million out of a total of $100 million provided to Grant's finance subsidiary.

Support of the banks during the summer of 1974 was accompanied by a top management change. Staley and Mayer stepped down in the spring and were replaced in August 1974 by James G. Kendrick, brought in from Zeller's Ltd., Grant's Canadian subsidiary. As chief executive officer, Kendrick moved to cut Grant's losses. He slashed payroll significantly, closed 126 unprofitable stores and phased out the big-ticket furniture and appliance lines. New store space opened in 1975 was 75 percent less than in 1974.

The positive effects of these moves could not overcome the disastrous events of early 1975. In January, Grant defaulted on about $75 million in interest payments and in February, results of operations for the year ended January 31, 1975, were released. Grant reported a loss of $177 million, with substantial losses from credit operations accounting for 60 percent of the total.

The banks now assumed a more active role in what was becoming a struggle to save Grant. Robert H. Anderson, a vice president of Sears, was offered a lucrative $2.5 million contract. He decided to accept the challenge to turn the company around, and joined Grant as its new president in April 1975. Kendrick remained as chairman of the board. The banks holding 90 percent of Grant's debt extended their loans from June 2, 1975, to March 31, 1976. The balance of about $56 million was repaid on June 2. A major problem confronting Anderson was how to maintain the continued flow of merchandise into Grant stores. Suppliers became skeptical of Grant's ability to pay for merchandise and, in August 1975, the banks agreed to subordinate $300 million of debt to the suppliers' claims for merchandise shipped. With the approach of the Christmas shopping season, the need for merchandise became critical. Despite the banks' subordination of their claims to those of suppliers and the intensive cultivation of suppliers by Anderson, Grant did not receive sufficient quantities of merchandise in the stores.

During this period, Grant reported a $111.3 million net loss for the six months ended on July 31, 1975. Sales had declined 15 percent from the comparable period in 1974. Kendrick observed that a return to profitability before the fourth quarter was unlikely.

On October 2, 1975, Grant filed a Chapter 11 bankruptcy petition. The rehabilitation effort was formally underway and the protection provided by Chapter 11 permitted a continuation of the reorganization and rehabilitation activities for the next four months. On February 6, 1976, after store closings and liquidations of inventories had generated $320 million in cash, the creditors committee overseeing the bankruptcy voted for liquidation, and W. T. Grant ceased to exist.

Financial Statements for Grant

Two changes in accounting principles affect Grant's financial statements. Prior to fiscal 1970, Grant accounted for the investment in its wholly owned finance subsidiary using the equity method. Beginning with the year ending January 31, 1970, Grant consolidated the finance subsidiary. Prior to fiscal 1975, Grant recorded the total finance charge on credit sales as income in the year of the sale. Accounts receivable therefore included the full amount to be received from customers, not the present value of such amount. Beginning with the fiscal year ending January 31, 1975, Grant recognized finance changes on credit sales over the life of the installment contract.

Exhibit 3.30 presents comparative balance sheets and Exhibit 3.31 presents statements of income and retained earnings for Grant, based on the amounts as originally reported for each year. Exhibits 3.32, 3.33, and 3.34 present balance sheets, income statements, and statements of cash flow, respectively, based on revised amounts reflecting retroactive restatement for the two changes in accounting principles described earlier. These latter statements consolidate the finance subsidiary for all years. Grant provided the necessary data to restate for the change in income recognition of finance charges for the 1971 to 1975 fiscal years only. Exhibit 3.35 presents selected other data for Grant, the variety chain store industry, and the aggregate economy.

Required

Using the narrative information and the financial data provided in Exhibits 3.30 through 3.35, your mission is to apply tools of financial analysis to determine the major causes of Grant's financial problems. If you had been performing this analysis contemporaneously with the release of publicly reported information, when would you have become skeptical of the ability of Grant to continue as a viable going concern? To assist in this analysis, Exhibits 3.36 through 3.38 present selected ratio and growth rate information based on the following assumptions:

Exhibit 3.36: Based on the amounts as originally reported for each year (Exhibits 3.30 and 3.31).

Exhibit 3.37: Based on the amounts as retroactively restated for changes in accounting principles (Exhibits 3.32, 3.33, and 3.34).

Exhibit 3.38: Same as Exhibit 3.37, except assets and liabilities reflect the capitalization of leases using the amounts presented in the case.

EXHIBIT 3.30

W. T. Grant Company
Comparative Balance Sheets
(as originally reported in thousands)
(Case 3.3)

January 31:	1966	1967	1968
Assets			
Cash and Marketable Securities	$ 22,559	$ 37,507	$ 25,047
Accounts Receivable[c]	110,943	110,305	133,406
Inventories	151,365	174,631	183,722
Other Current Assets	—	—	—
Total Current Assets	$284,867	$322,443	$342,175
Investments	38,419	40,800	56,609
Property, Plant, and Equipment, net	40,367	48,071	47,572
Other Assets	1,222	1,664	1,980
Total Assets	$364,875	$412,978	$448,336
Liabilities and Shareholders' Equity			
Short-Term Debt	$ —	$ —	$ 300
Accounts Payable—Trade	58,252	75,885	79,673
Current Deferred Taxes	37,590	47,248	57,518
Total Current Liabilities	$ 95,842	$123,133	$137,491
Long-Term Debt	70,000	70,000	62,622
Noncurrent Deferred Taxes	6,269	7,034	7,551
Other Long-Term Liabilities	4,784	4,949	4,858
Total Liabilities	$176,895	$205,116	$212,522
Preferred Stock	$ 15,000	$ 15,000	$ 14,750
Common Stock	15,375	15,636	16,191
Additional Paid-In Capital	25,543	27,977	37,428
Retained Earnings	132,062	149,249	167,445
Total	$187,980	$207,862	$235,814
Less Cost of Treasury Stock	—	—	—
Total Stockholders' Equity	$187,980	$207,862	$235,814
Total Liabilities and Shareholders' Equity	$364,875	$412,978	$448,336

[a]In the year ending January 31, 1970, W. T. Grant changed its consolidation policy and commenced consolidating its wholly owned finance subsidiary.
[b]In the year ending January 31, 1975, W. T. Grant changed its method of recognizing finance income on installment sales. In prior years, Grant recognized all finance income in the year of the sale. Beginning in the 1975 fiscal period, it recognized finance income over the time the installment receivable was outstanding.
[c]Accounts receivable comprises the following:

January 31:	1966	1967	1968
Customer Installment Receivables	$114,470	$114,928	$140,507
Less Allowances for Uncollectible Accounts	(7,065)	(9,383)	(11,307)
Unearned Credit Insurance	—	—	—
Unearned Finance Income	—	—	—
Net	$107,405	$105,545	$129,200
Other Receivables	3,538	4,760	4,206
Total Receivables	$110,943	$110,305	$133,406

EXHIBIT 3.30

continued

1969	1970[a]	1971	1972	1973	1974	1975[b]
$ 28,460	$ 32,977	$ 34,009	$ 49,851	$ 30,943	$ 45,951	$ 79,642
154,829	368,267	419,731	477,324	542,751	598,799	431,201
208,623	222,128	260,492	298,676	399,533	450,637	407,357
—	5,037	5,246	5,378	6,649	7,299	6,581
$391,912	$628,409	$719,478	$831,229	$ 979,876	$1,102,686	$ 924,781
62,854	20,694	23,936	32,367	35,581	44,251	49,764
49,213	55,311	61,832	77,173	91,420	100,984	101,932
2,157	2,381	2,678	3,901	3,821	5,063	5,790
$506,136	$706,795	$807,924	$944,670	$1,110,698	$1,252,984	$1,082,267
$ 180	$182,132	$246,420	$237,741	$ 390,034	$ 453,097	$ 600,695
102,080	104,144	118,091	124,990	112,896	104,883	147,211
64,113	80,443	94,785	112,846	130,137	132,085	2,000
$166,373	$366,719	$459,296	$475,577	$ 633,067	$ 690,065	$ 749,906
43,251	35,402	32,301	128,432	126,672	220,336	216,341
7,941	8,286	8,518	9,664	11,926	14,649	—
5,519	5,700	5,773	5,252	4,694	4,196	2,183
$223,084	$416,107	$505,888	$618,925	$ 776,359	$ 929,246	$ 968,430
$ 13,250	$ 11,450	$ 9,600	$ 9,053	$ 8,600	$ 7,465	$ 7,465
17,318	17,883	18,180	18,529	18,588	18,599	18,599
59,945	71,555	78,116	85,195	86,146	85,909	83,914
192,539	211,679	230,435	244,508	261,154	248,461	37,674
$283,052	$312,567	$336,331	$357,285	$ 374,488	$ 360,434	$ 147,652
—	(21,879)	(34,295)	(31,540)	(40,149)	(36,696)	(33,815)
$283,052	$290,688	$302,036	$325,745	$ 334,339	$ 323,738	$ 113,837
$506,136	$706,795	$807,924	$944,670	$1,110,698	$1,252,984	$1,082,267

1969	1970[a]	1971	1972	1973	1974	1975[b]
$162,219	$381,757	$433,730	$493,859	$ 556,091	$ 602,305	$ 518,387
(13,074)	(15,270)	(15,527)	(15,750)	(15,770)	(18,067)	(79,510)
—	(5,774)	(9,553)	(12,413)	(8,768)	(4,923)	(1,386)
—	—	—	—	—	—	(37,523)
$149,145	$360,713	$408,650	$465,696	$ 531,553	$ 579,315	$ 399,968
5,684	7,554	11,081	11,628	11,198	19,484	31,233
$154,829	$368,267	$419,731	$477,324	$ 542,751	$ 598,799	$ 431,201

EXHIBIT 3.31

W. T. Grant Company
Statements of Income and Retained Earnings
(as originally reported in thousands)
(Case 3.3)

Year Ended January 31:	1967	1968	1969
Sales	$920,797	$979,458	$1,096,152
Concessions	2,249	2,786	3,425
Equity in Earnings	2,072	2,987	3,537
Finance Charges	—	—	—
Other Income	1,049	2,010	2,205
Total Revenues	$926,167	$987,241	$1,105,319
Cost of Goods Sold	$631,585	$669,560	$ 741,181
Selling, General, and Administration	233,134	253,561	287,883
Interest	4,970	4,907	4,360
Taxes:			
Current	13,541	17,530	25,600
Deferred	11,659	9,120	8,400
Total Expenses	$894,889	$954,678	$1,067,424
Net Income	$ 31,278	$ 32,563	$ 37,895
Dividends	(14,091)	(14,367)	(17,686)
Change in Accounting Principles:			
Consolidation of Finance Subsidiary	—	—	4,885
Recognition of Financing Charges	—	—	—
Change in Retained Earnings	$ 17,187	$ 18,196	$ 25,094
Retained Earnings—Beginning of Period	132,062	149,249	167,445
Retained Earnings—End of Period	$149,249	$167,445	$ 192,539

EXHIBIT 3.31

continued

1970	1971	1972	1973	1974	1975
$1,210,918	$1,254,131	$1,374,811	$1,644,747	$1,849,802	$1,761,952
3,748	4,986	3,439	3,753	3,971	4,238
2,084	2,777	2,383	5,116	4,651	3,086
—	—	—	—	—	91,141
2,864	2,874	3,102	1,188	3,063	3,376
$1,219,614	$1,264,768	$1,383,735	$1,654,804	$1,861,487	$1,863,793
$ 817,671	$ 843,192	$ 931,237	$1,125,261	$1,282,945	$1,303,267
307,215	330,325	374,334	444,879	491,287	769,253
14,919	18,874	16,452	21,127	78,040	86,079
24,900	21,140	13,487	9,588	(6,021)	(19,439)
13,100	11,660	13,013	16,162	6,807	(98,027)
$1,177,805	$1,225,191	$1,348,523	$1,617,017	$1,853,058	$2,041,133
$ 41,809	$ 39,577	$ 35,212	$ 37,787	$ 8,429	$ (177,340)
(19,737)	(20,821)	(21,139)	(21,141)	(21,122)	(4,457)
(2,932)	—	—	—	—	—
$ —	$ —	$ —	$ —	$ —	$ (28,990)
$ 19,140	$ 18,756	$ 14,073	$ 16,646	$ (12,693)	$ (210,787)
192,539	211,679	230,435	244,508	261,154	248,461
$ 211,679	$ 230,435	$ 244,508	$ 261,154	$ 248,461	$ 37,674

EXHIBIT 3.32

W. T. Grant Company
Comparative Balance Sheets
(as retroactively reported for changes in accounting principles in thousands)
(Case 3.3)

January 31:	1966	1967	1968
Assets			
Cash and Marketable Securities	$ 22,638	$ 39,040	$ 25,141
Accounts Receivable[c]	172,706	230,427	272,450
Inventories	151,365	174,631	183,722
Other Current Assets	3,630	4,079	3,982
Total Current Assets	$350,339	$448,177	$485,295
Investments	13,405	14,791	16,754
Property, Plant, and Equipment, net	40,372	48,076	47,578
Other Assets	1,222	1,664	1,980
Total Assets	$405,338	$512,708	$551,607
Liabilities and Shareholders' Equity			
Short-Term Debt	$ 37,314	$ 97,647	$ 99,230
Accounts Payable	58,252	75,885	79,673
Current Deferred Taxes	36,574	44,667	56,545
Total Current Liabilities	$132,140	$218,199	$235,448
Long-Term Debt	70,000	70,000	62,622
Noncurrent Deferred Taxes	6,269	7,034	7,551
Other Long-Term Liabilities	4,785	5,159	5,288
Total Liabilities	$213,194	$300,392	$310,909
Preferred Stock	$ 15,000	$ 15,000	$ 14,750
Common Stock	15,375	15,636	16,191
Additional Paid-In Capital	25,543	27,977	37,428
Retained Earnings	136,226	153,703	172,329
Total	$192,144	$212,316	$240,698
Less Cost of Treasury Stock	—	—	—
Total Stockholders' Equity	$192,144	$212,316	$240,698
Total Liabilities and Shareholders' Equity	$405,338	$512,708	$551,607

[a]See Note (a) to Exhibit 3.30.
[b]See Note (b) to Exhibit 3.30.
[c]Accounts receivable comprises the following:

	1966	1967	1968
Customer Installment Receivables			
Less Allowances for Uncollectible	NOT DISCLOSED ON A FULLY		
Accounts			
Unearned Credit Insurance	CONSOLIDATED BASIS		
Unearned Finance Income			
Net Other Receivables	WITH FINANCE SUBSIDIARY		
Total Receivables	$172,706	$230,427	$272,450

EXHIBIT 3.32

continued

1969	1970[a]	1971	1972	1973	1974	1975[b]
$ 25,639	$ 32,977	$ 34,009	$ 49,851	$ 30,943	$ 45,951	$ 79,642
312,776	368,267	358,428	408,301	468,582	540,802	431,201
208,623	222,128	260,492	298,676	399,533	450,637	407,357
4,402	5,037	5,246	5,378	6,649	7,299	6,581
$551,440	$628,409	$658,175	$762,206	$ 905,707	$1,044,689	$ 924,781
18,581	20,694	23,936	32,367	35,581	44,251	49,764
49,931	55,311	61,832	77,173	91,420	100,984	101,932
2,157	2,381	2,678	3,901	3,821	5,063	5,790
$622,109	$706,795	$746,621	$875,647	$1,036,529	$1,194,987	$1,082,267
$118,125	$182,132	$246,420	$237,741	$ 390,034	$ 453,097	$ 600,695
102,080	104,144	118,091	124,990	112,896	104,883	147,211
65,073	80,443	58,536	72,464	87,431	103,078	2,000
$285,278	$366,719	$423,047	$435,195	$ 590,361	$ 661,058	$ 749,906
43,251	35,402	32,301	128,432	126,672	220,336	216,341
7,941	8,286	8,518	9,664	11,926	14,649	—
5,519	5,700	5,773	5,252	4,694	4,196	2,183
$341,989	$416,107	$469,639	$578,543	$ 733,653	$ 900,239	$ 968,430
$ 13,250	$ 11,450	$ 9,600	$ 9,053	$ 8,600	$ 7,465	$ 7,465
17,318	17,883	18,180	18,529	18,588	18,599	18,599
59,945	71,555	78,116	85,195	86,146	85,909	83,914
189,607	211,679	205,381	215,867	229,691	219,471	37,674
$280,120	$312,567	$311,277	$328,644	$ 343,025	$ 331,444	$ 147,652
—	(21,879)	(34,295)	(31,540)	(40,149)	(36,696)	(33,815)
$280,120	$290,688	$276,982	$297,104	$ 302,876	$ 294,748	$ 113,837
$622,109	$706,795	$746,621	$875,647	$1,036,529	$1,194,987	$1,082,267

1969	1970[a]	1971	1972	1973	1974	1975[b]
	$381,757	$433,730	$493,859	$ 556,091	$ 602,305	$ 518,387
	(15,270)	(15,527)	(15,750)	(15,770)	(18,067)	(79,510)
	(5,774)	(9,553)	(12,413)	(8,768)	(4,923)	(1,386)
	—	(61,303)	(69,023)	(74,169)	(57,997)	(37,523)
	$360,713	$347,347	$396,073	$ 457,384	$ 521,318	$ 399,968
	7,554	11,081	11,628	11,198	19,484	31,233
$312,776	$368,267	$358,428	$408,301	$ 468,582	$ 540,802	$ 431,201

EXHIBIT 3.33

W. T. Grant Company
Statements of Income and Retained Earnings
(as retroactively revised for changes in accounting principles in thousands)
(Case 3.3)

Year Ended January 31:	1967	1968	1969
Sales	$920,797	$979,458	$1,096,152
Concessions	2,249	2,786	3,425
Equity in Earnings	1,073	1,503	1,761
Finance Charges	—	—	—
Other Income	1,315	2,038	2,525
Total Revenues	$925,434	$985,785	$1,103,311
Cost of Goods Sold	$631,585	$669,560	$ 741,181
Selling, General, and Administration	229,130	247,093	278,031
Interest	7,319	8,549	9,636
Taxes:			
Current	14,463	18,470	27,880
Deferred	11,369	9,120	8,400
Total Expenses	$893,866	$952,792	$1,065,128
Net Income	$ 31,568	$ 32,993	$ 38,183
Dividends	(14,091)	(14,367)	(17,686)
Change in Accounting Principles:			
Consolidation of Finance Subsidiary	—	—	(3,219)
Recognition of Financing Charges	—	—	—
Change in Retained Earnings	$ 17,477	$ 18,626	$ 17,278
Retained Earnings—Beginning of Period	136,226	153,703	172,329
Retained Earnings—End of Period	$153,703	$172,329	$ 189,607

EXHIBIT 3.33

continued

1970	1971	1972	1973	1974	1975
$1,210,918	$1,254,131	$1,374,812	$1,644,747	$1,849,802	$1,761,952
3,748	4,986	3,439	3,753	3,971	4,238
2,084	2,777	2,383	5,116	4,651	3,086
—	63,194	66,567	84,817	114,920	91,141
2,864	2,874	3,102	1,188	3,063	3,376
$1,219,614	$1,327,962	$1,450,303	$1,739,621	$1,976,407	$1,863,793
$ 817,671	$ 843,192	$ 931,237	$1,125,261	$1,282,945	$1,303,267
307,215	396,877	445,244	532,604	601,231	769,253
14,919	18,874	16,452	21,127	78,040	86,079
24,900	22,866	13,579	11,256	(6,021)	(19,439)
13,100	9,738	12,166	14,408	9,310	(98,027)
$1,177,805	$1,291,547	$1,418,678	$1,704,656	$1,965,505	$2,041,133
$ 41,809	$ 36,415	$ 31,625	$ 34,965	$ 10,902	$ (177,340)
(19,737)	(20,821)	(21,139)	(21,141)	(21,122)	(4,457)
—	—	—	—	—	—
—	(21,892)	—	—	—	—
$ 22,072	$ (6,298)	$ 10,486	$ 13,824	$ (10,220)	$ (181,797)
189,607	211,679	205,381	215,867	229,691	219,471
$ 211,679	$ 205,381	$ 215,867	$ 229,691	$ 219,471	$ 37,674

EXHIBIT 3.34

W. T. Grant Company
Statement of Cash Flows
(as retroactively revised for changes in accounting principles)
(Case 3.3)

Year Ended January 31:	1967	1968	1969
Operations			
Net Income	$ 31,568	$ 32,993	$ 38,183
Depreciation	7,524	8,203	8,388
Other	66	(856)	(1,140)
(Increase) Decrease in Receivables	(57,721)	(42,023)	(40,326)
(Increase) Decrease in Inventories	(23,266)	(9,091)	(24,901)
(Increase) Decrease in Prepayments	(449)	97	(420)
Increase (Decrease) in Accounts Payable	17,633	3,788	22,407
Increase (Decrease) in Other Current Liabilities	8,093	11,878	8,528
Cash Flow from Operations	$(16,552)	$ 4,989	$ 10,719
Investing			
Acquisition of Property, Plant, and Equipment	$(15,257)	$ (7,763)	$(10,626)
Acquisition of Investments	(269)	(418)	(35)
Cash Flow from Investing	$(15,526)	$ (8,181)	$(10,661)
Financing			
Increase (Decrease) in Short-Term Borrowing	$ 60,333	$ 1,583	$ 18,895
Increase (Decrease) in Long-Term Borrowing	—	(1,500)	(1,500)
Increase (Decrease) in Capital Stock	2,695	3,958	844
Dividends	(14,091)	(14,367)	(17,686)
Cash Flow from Financing	$ 48,937	$(10,326)	$ 553
Other	$ (457)	$ (381)	$ (113)
Change in Cash	$ 16,402	$(13,899)	$ 498

EXHIBIT 3.34

continued

1970	1971	1972	1973	1974	1975
$ 41,809	$ 36,415	$ 31,625	$ 34,965	$ 10,902	$(177,340)
8,972	9,619	10,577	12,004	13,579	14,587
(1,559)	(2,470)	(1,758)	(1,699)	(1,345)	(16,993)
(55,491)	(11,981)	(49,873)	(60,281)	(72,220)	109,601
(13,505)	(38,364)	(38,184)	(100,857)	(51,104)	43,280
(635)	(209)	(132)	(1,271)	(650)	718
2,064	13,947	6,899	(12,094)	(8,013)	42,328
15,370	(21,907)	13,928	14,967	15,647	(101,078)
$ (2,975)	$(14,950)	$(26,918)	$(114,266)	$(93,204)	$ (84,897)
$(14,352)	$(16,141)	$(25,918)	$ (26,251)	$(23,143)	$ (15,535)
—	(436)	(5,951)	(2,216)	(5,700)	(5,282)
$(14,352)	$(16,577)	$(31,869)	$ (28,467)	$(28,843)	$ (20,817)
$ 64,007	$ 64,288	$ (8,679)	$ 152,293	$ 63,063	$ 147,598
(1,687)	(1,538)	98,385	(1,584)	93,926	(3,995)
(17,860)	(8,954)	7,407	(8,227)	1,833	886
(19,737)	(20,821)	(21,139)	(21,141)	(21,122)	(4,457)
$ 24,723	$ 32,975	$ 75,974	$ 121,341	$137,700	$ 140,032
$ (58)	$ (416)	$ (1,345)	$ 2,484	$ (645)	$ (627)
$ 7,338	$ 1,032	$ 15,842	$ (18,908)	$ 15,008	$ 33,691

EXHIBIT 3.35

W. T. Grant Company
Other Data
(Case 3.3)

December 31:	1965	1966	1967	1968
W. T. Grant Co.				
Sales (millions of dollars)[a]	$ 839.7	$ 920.8	$ 979.5	$1,096.1
Number of Stores	1,088	1,104	1,086	1,092
Store Area (thousands of square feet)[a]	Data Not Available			
Dividends per Share[a]	$ .80	$ 1.10	$ 1.10	$ 1.30
Stock Price—High	31 1/8	35 1/8	37 3/8	45 1/8
—Low	18	20 1/2	20 3/4	30
—Close (12/31)	31 1/8	20 3/4	34 3/8	42 5/8
Variety Chain Store Industry				
Sales (millions of dollars)	$5,320.0	$5,727.0	$6,078.0	$6,152.0
Standard & Poor's Variety Chain Stock Price Index—High	31.0	31.2	38.4	53.6
—Low	24.3	22.4	22.3	34.7
—Close (12/31)	31.0	22.4	37.8	50.5
Aggregate Economy				
Gross National Product (billions of dollars)	$ 684.9	$ 747.6	$ 789.7	$ 865.7
Average Bank Short-Term Lending Rate	4.99%	5.69%	5.99%	6.68%
Standard & Poor's 500 Stock Price Index—High	92.6	94.1	97.6	108.4
—Low	81.6	73.2	80.4	87.7
—Close (12/31)	92.4	80.3	96.5	103.9

[a]These amounts are for the fiscal year ending January 31 of the year after the year indicated in the column. For example, sales for W. T. Grant of $839.7 in the 1965 column are for the fiscal year ending January 31, 1966.

EXHIBIT 3.35

continued

1969	1970	1971	1972	1973	1974
$1,210.9	$ 1,254.1	$1,374.8	$1,644.7	$ 1,849.8	$1,762.0
1,095	1,116	1,168	1,208	1,189	1,152
—	38,157	44,718	50,619	53,719	54,770
$ 1.40	$ 1.40	$ 1.50	$ 1.50	$ 1.50	$ .30
59	52	70 5/8	48 3/4	44 3/8	12
39 1/4	26 7/8	41 7/8	38 3/4	9 7/8	1 1/2
47	47 1/8	47 3/4	43 7/8	10 7/8	1 7/8
$6,426.0	$ 6,959.0	$6,972.0	$7,498.0	$ 8,212.0	$8,714.0
66.1	61.4	92.2	107.4	107.3	73.7
48.8	40.9	60.2	82.1	60.0	39.0
59.6	60.4	88.0	106.8	66.2	41.9
$ 932.1	$ 1,075.3	$1,107.5	$1,171.1	$ 1,233.4	$1,210.0
8.21%	8.48%	6.32%	5.82%	8.30%	11.28%
106.2	93.5	104.8	119.1	120.2	99.8
89.2	69.3	90.2	101.7	92.2	62.3
92.1	92.2	102.1	118.1	97.6	68.6

EXHIBIT 3.36

W. T. Grant Company
Financial Ratios and Growth Rates for W. T. Grant Based on Amounts as Originally Reported
(Case 3.3)

Financial Ratios	1967	1968	1969
Profitability Analysis			
Profit Margin for ROA	3.7%	3.6%	3.7%
Assets Turnover	2.4	2.3	2.3
Return on Assets (ROA)	8.7%	8.2%	8.4%
Return on Common Shareholders' Equity (ROCE)	16.8%	15.5%	15.2%
Operating Performance			
Cost of Goods Sold/Sales	68.6%	68.4%	67.6%
Selling and Administrative Expenses/Sales	25.3%	25.9%	26.3%
Asset Turnovers			
Accounts Receivable	8.3	8.0	7.6
Inventory	3.9	3.7	3.8
Fixed Asset	20.8	20.5	22.7
Short-Term Liquidity Risk			
Current Ratio	2.62	2.49	2.36
Quick Ratio	1.20	1.15	1.10
Days Receivables	44	45	48
Days Inventory	94	98	97
Days Payables	37	42	43
Operating Cash Flow/Current Liabilities	(15.1%)	3.8%	7.1%
Long-Term Liquidity Risk			
Liabilities/Assets	49.7%	47.4%	44.1%
Long-Term Debt/Assets	17.0%	14.0%	8.5%
Operating Cash Flow/Total Liabilities	(8.7%)	2.4%	4.9%
Interest Coverage Ratio	12.4	13.1	17.5

Growth Rates	1968	1969
Accounts Receivable	20.9%	16.1%
Inventories	5.2%	13.6%
Fixed Assets	(1.0%)	3.4%
Total Assets	8.6%	12.9%
Accounts Payable	5.0%	28.1%
Bank Loans	—	(40.0%)
Long-Term Debt	(10.5%)	(30.9%)
Shareholders' Equity	13.4%	20.0%
Sales	6.4%	11.9%
Cost of Goods Sold	6.0%	10.7%
Selling and Administrative Expenses	8.8%	13.5%
Net Income	4.1%	16.4%

EXHIBIT 3.36

continued

1970	1971	1972	1973	1974	1975
4.1%	3.9%	3.2%	3.0%	2.6%	(7.5%)
2.0	1.7	1.6	1.6	1.6	1.5
8.2%	6.5%	5.0%	4.7%	4.1%	(11.4%)
15.1%	13.7%	11.4%	11.7%	2.5%	(84.1%)
67.5%	67.2%	67.7%	68.4%	69.4%	74.0%
25.4%	26.3%	27.2%	27.0%	26.6%	43.7%
4.6	3.2	3.1	3.2	3.2	3.4
3.8	3.5	3.3	3.2	3.0	3.0
23.2	21.4	19.8	19.5	19.2	17.4
1.71	1.57	1.75	1.55	1.60	1.23
1.09	.99	1.11	.91	.93	.68
79	115	119	113	113	107
96	104	110	113	121	120
45	46	46	35	30	37
(1.1%)	(3.6%)	(5.8%)	(20.6%)	(14.1%)	(11.8%)
58.9%	62.6%	65.5%	69.9%	74.2%	85.9%
5.0%	4.0%	13.6%	11.4%	17.6%	20.0%
(.9%)	(3.2%)	(4.8%)	(16.4%)	(10.9%)	(9.0%)
6.4	4.8	4.8	4.0	1.1	(2.4)

1970	1971	1972	1973	1974	1975
137.9%	14.0%	13.7%	13.7%	10.3%	(28.0%)
6.5%	17.3%	14.7%	33.8%	12.8%	(9.6%)
12.4%	11.8%	24.8%	18.5%	10.5%	.9%
39.6%	14.3%	17.0%	17.6%	12.8%	(13.6%)
2.0%	13.4%	5.8%	(9.7%)	(7.1%)	40.4%
N/A	35.3%	(3.5%)	64.1%	16.2%	32.6%
(18.1%)	(8.8%)	297.6%	(1.4%)	73.9%	(1.8%)
2.7%	3.9%	7.8%	2.6%	(3.2%)	(64.8%)
10.5%	3.6%	9.6%	19.6%	12.5%	(4.7%)
10.3%	3.1%	10.4%	20.8%	14.0%	1.6%
6.7%	7.5%	13.3%	18.8%	10.4%	56.6%
10.3%	(5.3%)	(11.0%)	7.3%	(77.7%)	(2,203.9%)

Exhibit 3.37

W. T. Grant Company Financial Ratios and Growth Rates for W. T. Grant Based on Amounts Retroactively Restated for Changes in Accounting Principles (Leases Not Capitalized) (Case 3.3)

Financial Ratios	1967	1968	1969
Profitability Analysis			
Profit Margin for ROA	3.8%	3.8%	3.9%
Assets Turnover	2.0	1.8	1.9
Return on Assets (ROA)	7.7%	7.0%	7.4%
Return on Common Shareholders' Equity (ROCE)	16.6%	15.3%	15.3%
Operating Performance			
Cost of Goods Sold/Sales	68.6%	68.4%	67.6%
Selling and Administrative Expenses/Sales	24.9%	25.2%	25.4%
Asset Turnovers			
Accounts Receivable	4.6	3.9	3.7
Inventory	3.9	3.7	3.8
Fixed Asset	20.8	20.5	22.5
Short-Term Liquidity Risk			
Current Ratio	2.05	2.06	1.93
Quick Ratio	1.23	1.26	1.19
Days Receivables	80	94	97
Days Inventory	94	98	97
Days Payables	37	42	43
Operating Cash Flow/Current Liabilities	(9.4%)	2.2%	4.1%
Long-Term Liquidity Risk			
Liabilities/Assets	58.6%	56.4%	55.0%
Long-Term Debt/Assets	13.7%	11.4%	7.0%
Operating Cash Flow/Liabilities	(6.4%)	1.6%	3.3%
Interest Coverage Ratio	8.8	8.1	8.7

Growth Rates	1968	1969
Accounts Receivable	18.2%	14.8%
Inventories	5.2%	13.6%
Fixed Assets	(1.0%)	4.9%
Total Assets	7.6%	12.8%
Accounts Payable	5.0%	28.1%
Bank Loans	1.6%	19.0%
Long-Term Debt	(10.5%)	(30.9%)
Shareholders' Equity	13.4%	16.4%
Sales	6.4%	11.9%
Cost of Goods Sold	6.0%	10.7%
Selling and Administrative Expenses	7.8%	12.5%
Net Income	4.5%	15.7%

Exhibit 3.37

continued

1970	1971	1972	1973	1974	1975
4.1%	3.7%	2.9%	2.8%	2.8%	(7.5%)
1.8	1.7	1.7	1.7	1.7	1.5
7.5%	6.4%	5.0%	4.8%	4.6%	(11.6%)
15.1%	13.2%	11.3%	11.9%	3.6%	(90.2%)
67.5%	67.2%	67.7%	68.4%	69.4%	74.0%
25.4%	31.6%	32.4%	32.4%	32.5%	43.7%
3.6	3.5	3.6	3.8	3.7	3.6
3.8	3.5	3.3	3.2	3.0	3.0
23.0	21.4	19.8	19.5	19.2	17.4
1.71	1.56	1.75	1.53	1.58	1.23
1.09	.93	1.05	.85	.89	.68
103	106	102	97	100	101
96	104	110	113	121	120
45	46	46	35	30	37
(.9%)	(3.8%)	(6.3%)	(22.3%)	(14.9%)	(12.0%)
58.9%	62.9%	66.1%	70.8%	75.3%	89.5%
5.0%	4.3%	14.7%	12.2%	18.4%	20.0%
(.8%)	(3.4%)	(5.1%)	(17.4%)	(11.4%)	(9.1%)
6.4	4.7	4.5	3.9	1.2	(2.4)

1970	1971	1972	1973	1974	1975
17.7%	(2.7%)	13.9%	14.8%	15.4%	(20.3%)
6.5%	17.3%	14.7%	33.8%	12.8%	(9.6%)
10.8%	11.8%	24.8%	18.5%	10.5%	.9%
13.6%	5.6%	17.3%	18.4%	15.3%	(9.4%)
2.0%	13.4%	5.8%	(9.7%)	(7.1%)	40.4%
54.2%	35.3%	(3.5%)	64.1%	16.2%	32.6%
(18.1%)	(8.8%)	297.6%	(1.4%)	73.9%	(1.8%)
3.8%	(4.7%)	7.3%	1.9%	(2.7%)	(61.4%)
10.5%	3.6%	9.6%	19.6%	12.5%	(4.7%)
10.3%	3.1%	10.4%	20.8%	14.0%	1.6%
10.5%	29.2%	12.2%	19.6%	12.9%	27.9%
9.5%	(12.9%)	(13.2%)	10.6%	(68.8%)	(1,726.7%)

EXHIBIT 3.38

W. T. Grant Company Financial Ratios and Growth Rates for W. T. Grant Based on Amounts Retroactively Restated for Changes in Accounting Principles (Leases Capitalized) (Case 3.3)

Financial Ratios	1967	1968	1969
Profitability Analysis			
Profit Margin for ROA	3.8%	3.8%	3.9%
Assets Turnover	1.1	1.1	1.1
Return on Assets (ROA)	4.1%	4.0%	4.3%
Return on Common Shareholders' Equity (ROCE)	16.6%	15.3%	15.3%
Operating Performance			
Cost of Goods Sold/Sales	68.6%	68.4%	67.6%
Selling and Administrative Expenses/Sales	24.9%	25.2%	25.4%
Asset Turnovers			
Accounts Receivable	4.6	3.9	3.7
Inventory	3.9	3.7	3.8
Fixed Asset	2.1	2.2	2.3
Short-Term Liquidity Risk			
Current Ratio	2.05	2.06	1.93
Quick Ratio	1.23	1.26	1.19
Days Receivables	80	94	97
Days Inventory	94	98	97
Days Payables	37	42	43
Operating Cash Flow/Current Liabilities	(9.4%)	2.2%	4.1%
Long-Term Liquidity Risk			
Liabilities/Assets	76.7%	74.5%	74.0%
Long-Term Debt/Assets	51.5%	48.3%	46.4%
Operating Cash Flow/Liabilities	(2.5%)	.7%	1.4%
Interest Coverage	8.8	8.1	8.7

Growth Rates	1968	1969
Accounts Receivable	18.2%	14.8%
Inventories	5.2%	13.6%
Fixed Assets	1.6%	14.9%
Total Assets	3.5%	14.2%
Accounts Payable	5.0%	28.1%
Bank Loans	1.6%	19.0%
Long-Term Debt	(3.0%)	9.7%
Shareholders' Equity	13.4%	16.4%
Sales	6.4%	11.9%
Cost of Goods Sold	6.0%	10.7%
Selling and Administrative Expenses	7.8%	12.5%
Net Income	4.5%	15.7%

EXHIBIT 3.38

continued

1970	1971	1972	1973	1974	1975
4.1%	3.7%	2.9%	2.8%	2.8%	(7.5%)
1.1	1.0	1.0	1.0	1.0	.9
4.4%	3.8%	2.9%	2.8%	2.7%	(6.8%)
15.1%	13.2%	11.3%	11.9%	3.6%	(90.2%)
67.5%	67.2%	67.7%	68.4%	69.4%	74.0%
25.4%	31.6%	32.4%	32.4%	32.5%	43.7%
3.6	3.5	3.6	3.8	3.7	3.6
3.8	3.5	3.3	3.2	3.0	3.0
2.3	2.3	2.2	2.2	2.2	1.9
1.71	1.56	1.75	1.53	1.58	1.23
1.09	.93	1.05	.85	.89	.68
103	106	102	97	100	101
96	104	110	113	121	120
45	46	46	35	30	37
(.9%)	(3.8%)	(6.3%)	(22.3%)	(14.9%)	(12.0%)
75.6%	77.7%	80.2%	82.6%	85.3%	94.0%
43.8%	42.5%	50.2%	47.9%	51.3%	54.5%
(.3%)	(1.6%)	(2.5%)	(8.6%)	(5.9%)	(4.9%)
6.4	4.7	4.5	3.9	1.2	(2.4)

1970	1971	1972	1973	1974	1975
17.7%	(2.7%)	13.9%	14.8%	15.4%	(20.3%)
6.5%	17.3%	14.7%	33.8%	12.8%	(9.6%)
6.9%	2.9%	26.1%	13.8%	13.3%	1.8%
10.6%	4.1%	20.8%	16.2%	14.6%	(4.8%)
2.0%	13.4%	5.8%	(9.7%)	(7.1%)	40.4%
54.2%	35.3%	(3.5%)	64.1%	16.2%	32.6%
4.4%	1.2%	42.8%	10.7%	22.8%	1.1%
3.8%	(4.7%)	7.3%	1.9%	(2.7%)	(61.4%)
10.5%	3.6%	9.6%	19.6%	12.5%	(4.7%)
10.3%	3.1%	10.4%	20.8%	14.0%	1.6%
10.5%	29.2%	12.2%	19.6%	12.9%	27.9%
9.5%	(12.9%)	(13.2%)	10.6%	(68.8%)	(1,726.7%)