

CHAPTER TWO

2

FINANCIAL REPORTING AND ANALYSIS

A LOOK BACK

We began our study of financial statement analysis with an overview in Chapter 1. We saw how financial statements reflect business activities—financing, investing, and operating. We also performed a preliminary analysis of Dell.

A LOOK AT THIS CHAPTER

This chapter focuses on financial reporting and its analysis. We describe the financial reporting environment, including the principles underlying accounting. The advantages and disadvantages of accrual versus cash flow measures are discussed. We also explain the need for accounting analysis and introduce its techniques.

A LOOK AHEAD

Chapters 3 through 6 of this book are devoted to accounting analysis. Chapter 3 focuses on financing activities. Chapters 4 and 5 extend this to investing activities. Each of these chapters describes adjustments of accounting numbers that are useful for financial statement analysis.

ANALYSIS OBJECTIVES

- Explain the financial reporting and analysis environment.
- Identify what constitutes generally accepted accounting principles (GAAP).
- Describe the objectives of financial accounting; identify qualities of accounting information and principles and conventions that determine accounting rules.
- Describe the relevance of accounting information to business analysis and valuation, and identify its limitations.
- Explain the importance of accrual accounting and its strengths and limitations.
- Understand economic concepts of income, and distinguish it from cash flows and reported income; learn to make adjustments to reported income to meet analysis objectives.
- Explain fair value accounting and its differences from the historical cost model; identify the merits and demerits of fair value accounting and its implications for analysis.
- Describe the need for and techniques of accounting analysis.
- Explain the relevance of auditing and the audit report (opinion) for financial statement analysis (Appendix 2A).
- Analyze and measure earnings quality and its determinants (Appendix 2B).

Cash Is King . . . without Clothes

Bentonville, AR—There is a children's fable about the king who was deceived into believing he wore clothes made of special fabric when in actuality he was naked. All of his subjects were afraid to tell him and, instead, praised the king on his magnificent clothes. All, that is, except a child who dared to speak the truth. The king was quick to recognize the reality of the child's words and, eventually, rewarded him handsomely.

Cash is the king—without clothes (accruals)—in this children's fable. Experts know cash alone is incomplete, but many too often mindlessly act as if it is sufficient. Just as the dressing of robes, crown, and staff better reflects the reality of the king, so does the dressing of accruals better reflect the reality of a company's financial position and performance.

Yet, we too often witness the naive use of accruals. Accounting analysis overcomes this failing. As with the king, if the clothes of accruals fail to reflect reality, the aim of accounting analysis is to adjust those clothes to better reflect reality.

**. . . cash and accruals
play supporting roles . . .**

The upshot is that neither cash nor accruals is king. Instead, both cash and accruals play supporting roles, where adjusted or recasted information from accounting and financial analyses plays the lead role. As in the fable, recognition of this reality is richly rewarded.

This chapter takes data from two retailers, Kmart and Wal-Mart,

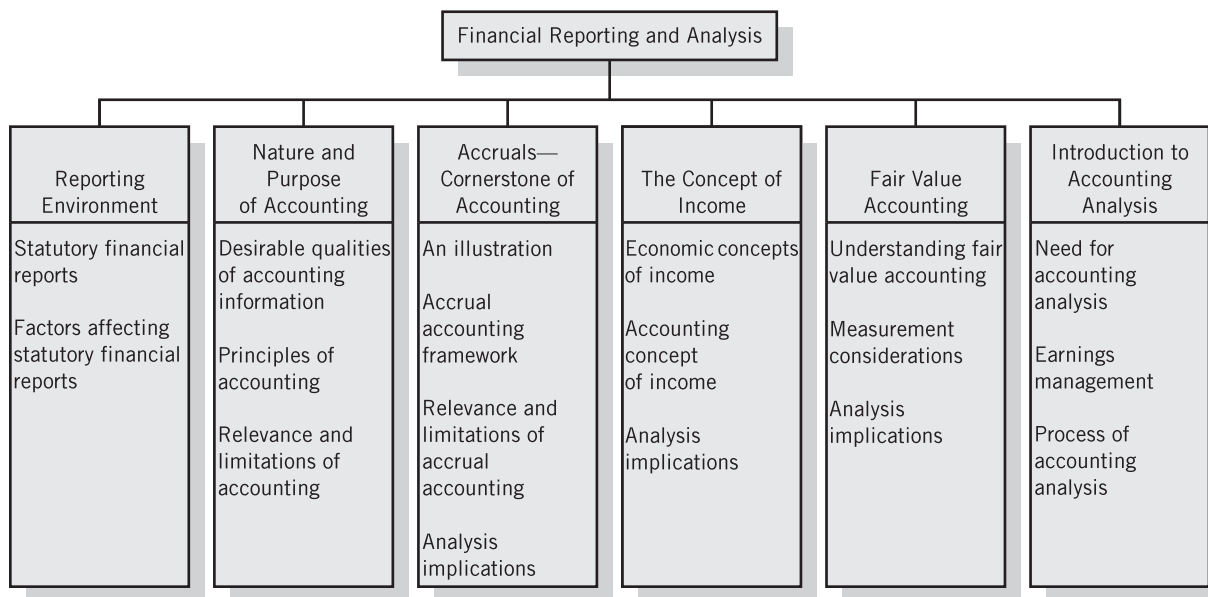
to explore the relative importance of cash and accruals in explaining stock prices. Findings show the power of accrual income in explaining stock prices.

We also link the relative explanatory power of cash and income to a company's life cycle. This linkage highlights different roles that each play at different times. This knowledge provides an advantage in analyzing information for business decisions.

We must learn from the king in the fable and not be deceived into believing cash or income is an all-encompassing, idyllic measure of financial performance. Otherwise, we are destined to be caught with our pants down.

PREVIEW OF CHAPTER 2

Chapter 1 introduced financial statements and discussed their importance for business analysis. Financial statements are the products of a financial reporting process governed by accounting rules and standards, managerial incentives, and enforcement and monitoring mechanisms. It is important for us to understand the financial reporting environment along with the objectives and concepts underlying the accounting information presented in financial statements. This knowledge enables us to better infer the reality of a company's financial position and performance. In this chapter we discuss the concepts underlying financial reporting, with special emphasis on accounting rules. We begin by describing the financial reporting environment. Then we discuss the purpose of financial reporting—its objectives and how these objectives determine both the quality of the accounting information and the principles and conventions that underlie accounting rules. We also examine the relevance of accounting information for business analysis and valuation, and we identify limitations of accounting information. We conclude with a discussion of accruals—the cornerstone of modern accounting. This includes an appraisal of accrual accounting in comparison with cash flow accounting and the implications for financial statement analysis.



.....REPORTING ENVIRONMENT

Statutory financial reports—primarily the financial statements—are the most important product of the financial reporting environment. Information in financial statements is judged relative to (1) the information needs of financial statement users and (2) alternative sources of information such as economic and industry data, analyst reports, and voluntary disclosures by managers. It is important to understand the factors that affect the nature and content of financial reports to appreciate the financial accounting information reported in them. The primary factors are *accounting rules (GAAP)*, *manager motivations*, *monitoring and enforcement mechanisms*, *regulators*, *industry practices*, and *other information sources*. We examine these and other components of the financial reporting environment in this section.

Statutory Financial Reports

Statutory financial reports are the most important part of the financial reporting process. While we are familiar with financial statements—especially the annual report—there are other important statutory financial reports that an analyst needs to review. We examine three categories of these reports in this section: financial statements, earnings announcements, and other statutory reports.

Financial Statements

We described the components of an annual report in Chapter 1. Strictly speaking, the annual report is not a statutory document. It often serves to publicize a company's products, services, and achievements to its shareholders and others. The statutory equivalent to the annual report is the **Form 10-K**, which public companies must file with the SEC. The annual report includes most of the information in the Form 10-K. Still, because the Form 10-K usually contains relevant information beyond that in the annual report, it is good practice to regularly procure a copy of it. Both current and past Form 10-Ks—as well as other regulatory filings—are downloadable from EDGAR at the SEC website [www.sec.gov].

Companies are also required to file a **Form 10-Q** quarterly with the SEC to report selected financial information. It is important to refer to Form 10-Q for *timely* information.

Unfortunately, most companies release very condensed quarterly information, which limits its value. When analyzing quarterly information, we need to recognize two crucial factors:

1. **Seasonality.** When examining trends, we must consider effects of *seasonality*. For example, retail companies make much of their revenues and profits in the fourth quarter of the calendar year. This means analysts often make comparisons with the same quarter of the prior year.
2. **Year-end adjustments.** Companies often make adjustments (for example, inventory write-offs) in the final quarter. Many of these adjustments relate to the entire year. This renders quarterly information less reliable for analysis purposes.

Earnings Announcements

Annual and quarterly financial statements are made available to the public only after the financial statements are prepared and audited. This time lag usually spans one to six weeks. Yet, companies almost always release key summary information to the public earlier through an **earnings announcement**. An earnings announcement is made available to traders on the stock exchange through the broad tape and is often reported in the financial press such as *The Wall Street Journal*. Earnings announcements provide key summary information about company position and performance for both quarterly and annual periods.

While financial statements provide detailed information that is useful in analysis, research shows that much of the immediate stock price reaction to quarterly financial information (at least earnings) occurs on the day of the earnings announcement instead of when the full financial statements are released. This means an investor is unlikely to profit by using summary information that was previously released. The detailed information in financial statements can be analyzed to provide insights about a company's performance and future prospects that are not available from summary information in earnings announcements.

Recently, companies have focused investors' attention on **pro forma earnings** in their earnings announcements. Beginning with GAAP income from continuing operations (excluding discontinued operations, extraordinary items, and changes in accounting principle), the additional transitory items (most notably, restructuring charges) remaining in income from continuing operations are now routinely excluded in computing pro forma income. In addition, companies are also excluding expenses arising from acquisitions, compensation expense in the form of stock options, income (losses) from equity method investees, research and development expenditures, and others. Companies view the objective of this reformulation as providing the analyst community with an earnings figure closer to "core" earnings, purged of transitory and nonoperating charges, which should have the highest relevance for determining stock price.

Significant differences between GAAP and pro forma earnings are not uncommon. For example, for the first three quarters of 2001, the 100 companies that make up the NASDAQ 100 reported \$82.3 billion in combined *losses* to the Securities and Exchange Commission (SEC). For the same period, these companies reported \$19.1 billion in combined *profits* to shareholders via headline, "pro forma" earnings reports—a difference of \$101.4 billion or more than \$1 billion per company. (Source: John J. May, SmartStock Investor.com, January 21, 2002)

It is generally acknowledged that additional disclosures by management can help investors understand the core drivers of shareholder value. These provide insight into the way companies analyze themselves and can be useful in identifying trends and predicting future operating results. The general effect of pro forma earnings is purportedly to eliminate transitory items to enhance year-to-year comparability. Although this might



AUDIT PRESS

A survey of CFOs found that auditors challenged the company's financial results in less than 40% of audits. Of the CFOs challenged, most refused to back down—specifically, 25% persuaded the auditor to agree to the practice in question, and 32% convinced the auditor that the results were immaterial. Only 43% made changes to win the auditor's approval.



EARLY BIRDS

More companies are issuing a warning or *earnings preannouncement* to avoid nasty negative surprises when they report bad-news earnings.

be justified on the basis that the resulting earnings have greater predictive ability, important information has been lost in the process. Accounting is beneficial in reporting how effective management has been in its stewardship of invested capital. Asset write-offs, liability accruals, and other charges that are eliminated in this process may reflect the outcomes of poor investment decisions or poor management of corporate invested capital. Investors should not blindly eliminate the information contained in nonrecurring, or “noncore,” items by focusing solely on pro forma earnings. A systematic definition of operating earnings and a standard income statement format might offer helpful clarification, but it should not be a substitute for the due diligence and thorough examination of the footnotes that constitute comprehensive financial statement analysis.

Other Statutory Reports

Beyond the financial statements, companies must file other reports with the SEC. Some of the more important reports are the **proxy statement**, which must be sent along with the notice of the annual shareholders’ meeting; **Form 8-K**, which must be filed to report unusual circumstances such as an auditor change; and the **prospectus**, which must accompany an application for an equity offering. Exhibit 2.1 lists many of the key statutory reports and their content.

Exhibit 2.1



Key SEC Filings

Title	Description	Important Contents from Analysis Perspective
Form 10-K	Annual report	Audited annual financial statements and management discussion and analysis.
Form 10-Q	Quarterly report	Quarterly financial statements and management discussion and analysis.
Form 20-F	Registration statement or annual report by foreign issuers	Reconciliation of reports using non-U.S. GAAP to one using U.S. GAAP.
Form 8-K	Current report	Report filed within 15 days of the following events: (1) change in management control; (2) acquisition or disposition of major assets; (3) bankruptcy or receivership; (4) auditor change; (5) director resignation.
Regulation 14-A	Proxy statement	Details of board of directors, managerial ownership, managerial remuneration, and employee stock options.
	Prospectus	Audited financial statements, information about proposed project or share issue.

Factors Affecting Statutory Financial Reports

The main component of financial statements (and many other statutory reports) is financial accounting information. While much of financial accounting information is determined by GAAP, other determinants are preparers (managers) and the monitoring and enforcement mechanisms that ensure its quality and integrity.

Generally Accepted Accounting Principles (GAAP)

Financial statements are prepared in accordance with **GAAP**, which are the rules and guidelines of financial accounting. These rules determine measurement and recognition policies such as how assets are measured, when liabilities are incurred, when revenues

and gains are recognized, and when expenses and losses are incurred. They also dictate what information must be provided in the notes. Knowledge of these accounting principles is essential for effective financial statement analysis.

GAAP Defined. GAAP are a collection of standards, pronouncements, opinions, interpretations, and practice guidelines. Various professional and quasistatutory bodies such as the Financial Accounting Standards Board (FASB), the SEC, and the American Institute of Certified Public Accountants (AICPA) set GAAP. From an analysis viewpoint, the most important types of accounting rules and guidelines are:

- *Statements of Financial Accounting Standards (SEAS).*
- *APB Opinions.*
- *Accounting Research Bulletins (ARB).*
- *AICPA pronouncements.* The AICPA issues guidelines for certain topics yet to be addressed by the FASB in its *Statements of Position (SOP)* or for those involving industry-specific matters in its *Industry Audit and Accounting Guidelines.*
- *EITF Bulletins.* *EITF Bulletins* are issued by the FASB's Emerging Issues Task Force.
- Industry practices.

Setting Accounting Standards. Standard setting in the United States (unlike many other nations) is mainly the responsibility of the private sector, with close ties to the accounting profession. The FASB currently serves as the standard-setting body in accounting. It consists of seven full-time paid members, who represent various *interest groups* such as investors, managers, accountants, and analysts. Before issuing a standard, the FASB issues, in most cases, a discussion memorandum for public comment. Written comments are filed with the board, and oral comments can be voiced at public hearings that generally precede the issuance of an *Exposure Draft* of the proposed standard. After further exposure and comment, the FASB usually issues a final version of an *SEAS*. It also sometimes issues interpretations of pronouncements.

Standard setting by the FASB is a political process, with increasing participation by financial statement users. From an analysis viewpoint, this political process often results in standards that are compromise solutions that fall short of requiring the most relevant information. Controversy surrounding executive stock options (ESOs) is a case in point. Even after the FASB voted to include the cost of ESOs in reported earnings, fierce lobbying by Silicon Valley companies forced the FASB to retreat. It eventually issued a watered-down standard (*SEAS 123*) that failed to require companies to recognize the cost of options in earnings. Instead, companies were allowed to bury this expense in notes to the financial statements. A decade later, in the post-Enron period as legislators pressed for more transparency in financial reporting, the ESO issue was raised once again and the FASB finally passed a standard requiring recognition of ESO expenses in the income statement.

Role of the Securities and Exchange Commission. The SEC is an independent, quasi-judicial government agency that administers the Securities Acts of 1933 and 1934. These acts pertain to disclosures related to public security offerings. The SEC plays a crucial role both in regulating information disclosure by companies with publicly traded securities and in monitoring and enforcing compliance with accepted practices.

The SEC can override, modify, or introduce accounting reporting and disclosure requirements. It can be viewed as the final authority on financial reporting. However, the SEC respects the accounting profession and understands the difficulties in developing accepted accounting standards. Consequently, it has rarely used its regulatory authority, but has become increasingly aggressive in modifying FASB standards. Current public attitudes toward, and confidence in, financial reporting in large part



FASB RAP

The rap on FASB from business includes (1) too many costly rule changes, (2) unrealistic and confusing rules, (3) bias toward investors, not companies, and (4) resistance to global standards.



CHIEF PAY

The annual salary of an FASB member exceeds \$500,000.



SHAME ON SEC

In his firm's proxy, Warren Buffett writes: "The SEC should be shamed by the fact that they have long let themselves be muscled by business executives."

determine the SEC involvement in accounting practice. SEC involvement is also affected by the aggressiveness of its chief accountant.

International Financial Reporting Standards. International Financial Reporting Standards (IFRS) are formulated by the International Accounting Standards Board (IASB), which is a body representing accountants and other interested parties from different countries. While the IFRS are currently not applicable in the United States—for example, foreign companies listed on U.S. exchanges need to reconcile IFRS-based numbers with U.S. GAAP—there is mounting pressure on the SEC to accept these standards in one form or another. We need to be aware of the growing influence of the IFRS outside the United States.

The FASB is currently involved in a joint project with the IASB—called the “convergence” project—that aims to eventually eliminate all differences between the two sets of standards. Considerable progress has been achieved to date in this direction.

Managers

Primary responsibility for fair and accurate financial reporting rests with managers. Managers have ultimate control over the integrity of the accounting system and the financial records that make up financial statements. Recognizing this fact, the Sarbanes-Oxley Act of 2002 requires the CEO to personally certify the accuracy and the veracity of the financial statements.

We know judgment is necessary in determining financial statement numbers. While accounting standards reduce subjectivity and arbitrariness in these judgments, they do not eliminate it. The exercise of managerial judgment arises both because accounting standards often allow managers to choose among alternative accounting methods and because of the estimation involved in arriving at accounting numbers.

Judgment in financial accounting involves *managerial discretion*. Ideally, this discretion improves the economic content of accounting numbers by allowing managers to exercise their skilled judgment and to communicate their private information through their accounting choices and estimates. For example, a manager could decrease the allowance for bad debts based on inside information such as the improved financial status of a major customer. Still, in practice, too many managers abuse this discretion to manage earnings and window-dress financial statements. This *earnings management* can reduce the economic content of financial statements and can reduce confidence in the reporting process. Identifying earnings management and making proper adjustments to reported numbers are important tasks in financial statement analysis.

Managers also can indirectly affect financial reports through their collective influence on the standard-setting process. Managers are a powerful force in determining accounting standards. Managers also provide a balancing force to the demands of users in standard setting. While users focus on the benefits of a new standard or disclosure, managers focus on its costs. Typically, managers oppose a standard that: (1) decreases reported earnings; (2) increases earnings volatility; or (3) discloses competitive information about segments, products, or plans.

Monitoring and Enforcement Mechanisms

Monitoring and enforcement mechanisms ensure the reliability and integrity of financial reports. Some of these, such as the SEC, are set by fiat. Other mechanisms, such as auditing, evolve over time. The importance of these mechanisms for the credibility and survival of financial reporting cannot be overemphasized.

RISKY MANAGERS

An executive-search firm conducted profiles of more than 1,400 managers of large companies. The results indicated that one out of eight execs can be termed *high risk*—they believe the rules do not apply to them, lack concern for others, and rarely possess feelings of guilt.

HOT SEAT

It's been a difficult period for auditor PricewaterhouseCoopers and its clients—some examples: Tyco International Ltd.'s CEO Dennis Kozlowski and CFO Mark Swartz allegedly looted millions from the company. Software maker MicroStrategy settled an SEC suit alleging it had violated accounting rules and overstated its results. Telecom giant Lucent Technologies has been under scrutiny for its accounting practices.

Auditors. External auditing is an important mechanism to help ensure the quality and reliability of financial statements. All public companies' financial statements must be audited by an independent certified public accountant (CPA). The product of an audit is the auditor's report, which is an integral part of financial statements. The centerpiece of an audit report is the **audit opinion**. An auditor can (1) issue a clean opinion, (2) issue one or more types of qualified opinions, or (3) disclaim expressing any opinion.

ANALYSIS VIEWPOINT

... YOU ARE THE AUDITOR

Your audit firm accepts a new audit engagement. How can you use financial statement analysis in the audit of this new client?

Corporate Governance. Another important monitor of financial reports is corporate governance mechanisms within a company. Financial statements need approval by a company's *board of directors*. Many companies appoint an *audit committee*—a subcommittee of the board—to oversee the financial reporting process. An audit committee is appointed by the board and is represented by both managers and outsiders. Audit committees are often entrusted with wide-ranging powers and responsibilities relating to many aspects of the reporting process. This includes oversight of accounting methods, internal control procedures, and internal audits. Many believe that an independent and powerful audit committee is a crucial corporate governance feature that contributes substantially to the quality of financial reports. Most companies also perform *internal audits*, which are another defense against fraud and misrepresentation of financial records.

Securities and Exchange Commission. The SEC plays an active role in monitoring and enforcing accounting standards. All public companies must file audited financial statements (10-Ks and 10-Qs) with the SEC. The SEC staff checks these reports to ensure compliance with statutory requirements, including adherence to accounting standards. The SEC has brought enforcement actions against hundreds of companies over the years for accounting violations. These violations range from misinterpretation of standards to outright fraud and falsification of accounts. Enforcement actions against companies and their managers range from restatement of financial statements to fines and imprisonment. Recently, the SEC has been actively attempting to curb earnings management.

Litigation. Another important monitor of managers (and auditors) is the threat of litigation. The amount of damages relating to accounting irregularities paid by companies, managers, and auditors in the past decade is estimated in the billions of dollars. The threat of litigation influences managers to adopt more responsible reporting practices both for statutory and voluntary disclosures.

ANALYSIS VIEWPOINT

... YOU ARE THE DIRECTOR

You are named a director of a major company. Your lawyer warns you about litigation risk and the need to constantly monitor both management and the financial health of the company. How can financial statement analysis assist you in performing your director duties?



TWISTED BOARDS

Some boards don't get it. After all the recent concern with corporate governance, the board of Conseqta—the financial services giant—gave an \$8 million bonus to CEO Gary Wendt even though he presided over only one profitable quarter in the previous two years.



TOP BOARDS

Attributes of a good board include:

Independence—CEO cronies are out. Eliminate insiders and cross-directorships.

Quality—Meetings include real, open debate. Appoint directors familiar with managers and the business.

Accountability—Directors hold stakes in the company and are willing to challenge the CEO.

Alternative Information Sources

Financial statements have long been regarded as a major source of information for users. However, financial statements increasingly compete with alternative sources of information. One major source of alternative information is analysts' forecasts and recommendations. Another source is economic, industry, and company-specific news. With continued development of the Internet, information availability for investors will increase. In this section we discuss some of the major alternative information sources: (1) economy, industry, and company news; (2) voluntary disclosures; and (3) information intermediaries (analysts).

Economic, Industry, and Company Information. Investors use economic and industry information to update company forecasts. Examples of macroeconomic news that affects the entire stock market include data on economic growth, employment, foreign trade, interest rates, and currency exchanges. The effects of economic information vary across industries and companies based on the perceived exposure of an industry's or a company's profits and risks to that news. Investors also respond to industry news such as commodity price changes, industry sales data, changes in competitive position, and government regulation. Moreover, company-specific information impacts user behavior—examples are news of acquisitions, divestitures, management changes, and auditor changes.

Voluntary Disclosure. Voluntary disclosure by managers is an increasingly important source of information. One important catalyst for voluntary disclosure is the Safe Harbor Rules. Those rules provide legal protection against genuine mistakes by managers who make voluntary disclosures.

There are several motivations for voluntary disclosure. Probably the most important motivation is *legal liability*. Managers who voluntarily disclose important news, especially of an adverse nature, have a lower probability of being sued by investors. Another motivation is that of *expectations adjustment*. It suggests managers have incentives to disclose information when they believe the market's expectations are sufficiently different from their own. Still another motivation is that of *signaling*, where managers are said to disclose good news to increase their company's stock price. A more recent motivation advanced for voluntary disclosures is the intent to *manage expectations*. Specifically, managers are said to manage market expectations of company performance so that they can regularly "beat" market expectations.

ANALYST REPORT

Supervisory analysts and compliance officers scour every word of a Wall Street investment research report.

ANALYST BIAS?

Evidence is mixed on whether analysts' forecasts tend to overestimate or underestimate earnings. If they overestimate, they risk alienating a company and losing access. If they underestimate, a company comes out looking good.

Information Intermediaries. Information intermediaries, or analysts, play an important and unique role in financial reporting. On one hand, they represent a sophisticated and active group of users. On the other hand, they constitute the single most important source of alternative information. As such, standard setters usually respond to analysts' demands as well as the threat they pose as a competing source of information.

Information intermediaries represent an industry involved in collecting, processing, interpreting, and disseminating information about the financial prospects of companies. This industry includes security analysts, investment newsletters, investment advisers, and debt raters. Security analysts constitute the largest segment of information intermediaries, which include both buy-side analysts and sell-side analysts. Buy-side analysts are usually employed by investment companies or pension funds such as *TIAA-CREF*, *Vanguard*, or *Fidelity*. These analysts do their analysis for in-house use. Sell-side analysts provide analysis and recommendations to the public for a fee, for example *Value Line* and *Standard & Poors*, or privately to their clients, for example, analysts at *Salomon Smith*

Barney and *Charles Schwab*. In short, sell-side analysts' reports are used by outsiders while buy-side analysts' reports are used internally. Another large component of information intermediaries includes investment newsletters such as *Dow Theory Forecasts* and *Smart Money*. Credit rating agencies such as Moody's also are information intermediaries whose services are aimed at credit agencies.

Information intermediaries are not directly involved in making investment and credit decisions. Instead, their objective is to provide information useful for those decisions. Their outputs, or products, are forecasts, recommendations, and research reports. Their inputs are financial statements, voluntary disclosures, and economic, industry, and company news. Information intermediaries create value by processing and synthesizing raw and diverse information about a company and output it in a form useful for business decisions. They are viewed as performing one or more of at least four functions:

1. **Information gathering.** This involves researching and gathering information about companies that is not readily available.
2. **Information interpretation.** A crucial task of an intermediary is the interpretation of information in an economically meaningful manner.
3. **Prospective analysis.** This is the final and most visible task of an information intermediary—involving both business analysis and financial statement analysis. The output includes earnings and cash flow forecasts.
4. **Recommendation.** Analysts also often make specific recommendations, such as buy/hold/sell recommendations for stocks and bonds.

By providing timely information that is often of a prospective nature and readily amenable to investment decision making, investment intermediaries perform an important service. Arguably, the growth of information intermediaries has reduced the importance of financial statements to capital markets. Still, information intermediaries depend significantly on financial statements, while at the same time they view financial statements as a competing information source.



PHONY INFO

Regulators allege that Merrill Lynch and Citigroup's Smith Barney issued upbeat research to win investment-banking clients. Also under investigation were CSFB and Morgan Stanley.



EARNINGS SEER

According to a recent study, 1,025 of 6,000 companies beat analysts' earnings forecasts in at least 9 of the past 12 quarters.

..... NATURE AND PURPOSE OF FINANCIAL ACCOUNTING

In this section we discuss the desirable qualities, principles, and conventions underlying financial accounting. With this insight, we can evaluate the strengths and weaknesses of accounting and its relevance to effective analysis and decision making.

Desirable Qualities of Accounting Information

Relevance is the capacity of information to affect a decision and is the first of two primary qualities of accounting information. This implies that *timeliness* is a desirable characteristic of accounting information. Interim (quarterly) financial reports are largely motivated by timeliness.

Reliability is a second important quality of financial information. For information to be reliable it must be verifiable, representationally faithful, and neutral. *Verifiability* means the information is confirmable. *Representational faithfulness* means the information reflects reality, and *neutrality* means it is truthful and unbiased.

Accounting information often demands a trade-off between relevance and reliability. For example, reporting forecasts increase relevance but reduce reliability. Also, while

analysts' forecasts are relevant, they are less reliable than actual figures based on historical data. Standard setters often struggle with this trade-off.

Comparability and consistency are secondary qualities of accounting information. *Comparability* implies that information is measured in a similar manner across companies. *Consistency* implies the same method is used for similar transactions across time. Both comparability and consistency are required for information to be relevant and reliable.

Important Principles of Accounting

The desirable qualities of accounting information serve as conceptual criteria for accounting principles. Skillful use of accounting numbers for financial analysis requires an understanding of the accounting framework underlying their computation. This includes the principles governing measurement of assets, liabilities, equity, revenues, expenses, gains, and losses.

Accrual Accounting

Modern accounting adopts the accrual basis over the more primitive cash flow basis. Under accrual accounting, revenues are recognized when earned and expenses when incurred, regardless of the receipt or payment of cash. The accrual basis is arguably the most important, but also controversial, feature of modern accounting. We focus on accrual accounting later in this chapter.

Historical Cost and Fair Value

Traditionally, accounting has used the *historical cost* concept for measuring and recording the value of assets and liabilities. Historical costs are values from actual transactions that have occurred in the past, so historical cost accounting is also referred to as *transactions-based* accounting. The advantage of historical cost accounting is that the value of an asset determined through arm's-length bargaining is usually fair and objective. However, when asset (or liability) values subsequently change, continuing to record value at the historical cost—that is, at the value at which the asset was originally purchased—impairs the usefulness of the financial statements, in particular the balance sheet.

Recognizing the limitations of historical cost accounting, standard setters are increasingly moving to an alternative form of recording asset (or liability) values based on the concept of *fair value*. Broadly, fair values are estimates of the *current* economic value of an asset or liability. If a market exists for the asset, it is the current market value of the asset. Fair value accounting is currently being used to record the value of many financial assets, such as marketable securities. However, the FASB has recognized the conceptual superiority of the fair value concept and has, in principle, decided to eventually move to a model where all asset and liability values are recorded at fair value. For the purposes of analysis, it is crucially important to understand the exact nature of fair value accounting, its current status and where it is heading, and also its advantages and limitations both for credit and equity analysis. Acknowledging its importance, we devote an entire section to fair value accounting later in this chapter.

Materiality

Materiality, according to the FASB, is “the magnitude of an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it possible that the judgment of a reasonable person relying on the information would be

changed or influenced by the omission or misstatement.” One problem with materiality is a concern that some preparers of financial statements and their auditors use it to avoid unwanted disclosures. This is compounded by the fact there is no set criteria guiding either the preparer or user of information in distinguishing between material and nonmaterial items.

Conservatism

Conservatism involves reporting the least optimistic view when faced with uncertainty in measurement. The most common occurrence of this concept is that gains are not recognized until they are realized (for example, appreciation in the value of land) whereas losses are recognized immediately. Conservatism reduces both the reliability and relevance of accounting information in at least two ways. First, conservatism understates both net assets and net income. A second point is that conservatism results in selectively delayed recognition of good news in financial statements, while immediately recognizing bad news. Conservatism has important implications for analysis. If the purpose of analysis is equity valuation, it is important to estimate the conservative bias in financial reports and make suitable adjustments so that net assets and net income are better measured. In the case of credit analysis, conservatism provides an additional margin of safety. Conservatism also is a determinant of earnings quality. While conservative financial statements reduce earnings quality, many users (such as Warren Buffett) view conservative accounting as a sign of superior earnings quality. This apparent contradiction is explained by conservative accounting reflecting on the responsibility, dependability, and credibility of management.

Academic research distinguishes between two types of conservatism. *Unconditional conservatism* is a form of conservative accounting that is applied across the board in a consistent manner. It leads to a perpetual understatement of asset values. An example of unconditional conservatism is the accounting for R&D: R&D expenditures are written off when incurred, regardless of their economic potential. Because of this, the net assets of R&D-intensive companies are always understated. *Conditional conservatism* refers to the adage of “recognize all losses immediately but recognize gains only after they are realized.” Examples of conditional conservatism are writing down assets—such as PP&E or goodwill—when there has been an economic impairment in their value, that is, reduction in their future cash-flow potential. In contrast, if the future cash flow potential of these assets increases, accountants do not immediately write up their values—the financial statements only gradually reflect the increased cash flow potential over time as and when the cash flows are realized. Of the two forms of conservative accounting, unconditional conservatism is clearly more valuable to an analyst—especially a credit analyst—because it conveys timely information about adverse changes in the company’s underlying economic situation.

Relevance and Limitations of Accounting

Relevance of Financial Accounting Information

Accounting for business activities is imperfect and has limitations. It is easy to focus on these imperfections and limitations. However, there is no comparable substitute. Financial accounting is and remains the only relevant and reliable system for recording, classifying, and summarizing business activities. Improvement rests with refinements in this time-tested system. It is incumbent on anyone who desires to perform effective financial



TIMING

Recording revenues early inflates short-run sales and earnings. Industries such as software sales and services, where service contracts and upgrades can stretch revenue out for years, are especially vulnerable to manipulation.

Analysis Research

ACCOUNTING INFORMATION AND STOCK PRICES

Do summary accounting numbers such as earnings (net income) explain a company's stock prices and returns? The answer is yes. Evidence from research shows a definite link between the type of *news* or *surprise* conveyed in earnings and a company's stock returns. Good earnings news (positive surprise) is accompanied by positive stock returns, whereas bad earnings news (negative surprise) is associated with negative returns. The more good or bad the earnings news (i.e., the greater the magnitude of the earnings surprise), the greater is the accompanying stock price reactions.

A substantial portion of the stock returns associated with earnings news occurs prior to the earnings announcement, indicating that the

stock market is able to infer much of the earnings news well before it is announced. This evidence suggests that accounting information, to a large extent, plays a *feedback role* wherein it confirms prior beliefs of the market. Interestingly, stock returns after the earnings announcement also appear to be associated with the earnings news. This phenomenon, called the *post-earnings announcement drift*, is arguably a form of stock market inefficiency and is exploited by several *momentum* based investing strategies.

Research shows us that many factors influence the relationship between accounting earnings and stock prices. These include company factors such as risk, size, leverage, and variability that decrease the influence of earnings on stock prices,

and factors such as earnings growth and persistence that increase their impact. Our analysis must recognize those influences that impact the relevance of accounting numbers for security analysis.

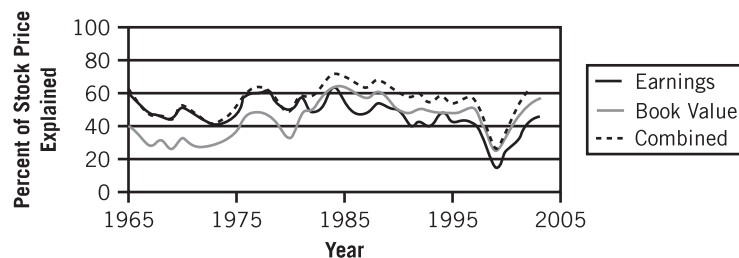
Research also shows the importance of earnings information to the market has declined over time, especially in the past two decades. Some of the suggested reasons for this decline are increased reporting of losses, increased magnitude of one-time charges and other special items, and increased importance of R&D and intangible assets. However, research reveals that while the ability of earnings to explain prices has declined over time, this has been offset to a large extent by the increasing importance of book value.

analysis to understand accounting, its terminology, and its practices, including its imperfections and limitations.

Exactly how relevant is financial accounting information for analysis? One way to answer this question is to examine how well financial accounting numbers reflect or explain stock prices. Exhibit 2.2 tracks the ability of earnings and book value to explain stock prices, both separately and in combination, for a large cross-section of companies over a recent 40-year period. The exhibit shows that earnings and book value (combined) are able to explain between 50% and 75% of stock price behavior (except for the late 1990s period—the dot-com bubble—when the explanatory power was quite

Exhibit 2.2

Relation between Accounting Numbers and Stock Prices*



*Graphs depict the R-squared from a regression of stock price on earnings per share and/or book value for all firms available on the Industrial, Full Coverage, and Research Compustat databases.

low). This occurs even though the analysis stacks the deck against accounting numbers in several ways. First, we do not control for many other factors that affect stock prices such as interest rates. Second, we consider only two summary numbers—arguably the two most important—from the wealth of information available in financial statements. Finally, we impose an identical relation between accounting numbers and stock prices across all companies—that is, we do not consider differences across companies such as industry effects and expected growth rates.

Exhibit 2.2 does not establish causation. That is, we cannot establish the extent to which accounting numbers directly determine stock prices. This is because of the presence of alternative information such as analyst forecasts and economic statistics used in setting stock prices. Still, recall that one element of the relevance of accounting information is feedback value for revising or confirming investor beliefs. At a minimum, this analysis supports the feedback value of accounting information by revealing the strong link between accounting numbers and stock prices.

Limitations of Financial Statement Information

Analyst forecasts, reports, and recommendations along with other alternative information sources are a major competitor for accounting information. What are the advantages offered by these alternative sources? We can identify at least three:

1. **Timeliness.** Financial statements are prepared as often as every quarter and are typically released from three to six weeks after the quarter-end. In contrast, analysts update their forecasts and recommendations on a nearly real-time basis—as soon as information about the company is available to them. Other alternative information sources, such as economic, industry, or company news, are also readily available in many forms including via the Internet.
2. **Frequency.** Closely linked to timeliness is frequency. Financial statements are prepared periodically, typically each quarter. However, alternative information sources, including analysts' reports, are released to the market whenever business events demand their revision.
3. **Forward-looking.** Alternative information sources, particularly analysts' reports and forecasts, use much forward-looking information. Financial statements contain limited forecasts. Further, historical-cost-based accounting (and conservatism) usually yields *recognition lags*, where certain business activities are recorded at a lag. To illustrate, consider a company that signs a long-term contract with a customer. An analyst will estimate the impact of this contract on future earnings and firm value as soon as news about the signing is available. Financial statements only recognize this contract in future periods when the goods or services are delivered.

Despite these drawbacks, financial statements continue to be an important source of information to financial markets.

..... ACCRUALS — CORNERSTONE OF ACCOUNTING

Financial statements are primarily prepared on an accrual basis. Supporters strongly believe that accrual accounting is superior to cash accounting, both for measuring performance and financial condition. *Statement of Financial Accounting Concepts No. 1* states that “information about enterprise earnings based on accrual accounting generally

provides a better indication of enterprises' present and continuing ability to generate cash flows than information limited to the financial aspects of cash receipts and payments."

Accrual accounting invokes a similarly strong response from its detractors. For detractors, accrual accounting is a medley of complex and imperfect rules that obscure the purpose of financial statements—providing information about cash flows and cash-generating capacity. For extreme critics, accrual accounting is a diversion, a red herring, that undermines the process of information dissemination. These critics claim the purpose of financial analysis is to remove the veil of accrual accounting and get to the underlying cash flows. They are troubled by the intricacy of accruals and their susceptibility to manipulation by managers.

This section presents a critical evaluation of accrual accounting. We discuss the relevance and importance of accruals, their drawbacks and limitations, and the implications of the accruals-versus-cash-flow debate for financial statement analysis. Our aim is not to take sides in this debate. We believe that cash flows and accruals serve different purposes and that both are important for financial analysis. Yet, we caution against a disregard of accruals. It is crucial for an analyst to understand accrual accounting for effective financial analysis.

Accrual Accounting—An Illustration

We explain accrual accounting, and its differences from cash accounting, with an illustration. Assume you decide to sell printed T-shirts for \$10 each. Your research suggests you can buy plain T-shirts for \$5 apiece. Printing would entail a front-end, fixed fee of \$100 for the screen and another \$0.75 per printed T-shirt. Your initial advertisement yields orders for 100 T-shirts. You then invest \$700 in the venture, purchase plain T-shirts and the screen, and get the T-shirts printed (suppliers require you pay for all expenses in cash). By the end of your first week in business, all T-shirts are ready for sale. Customers with orders totaling 50 T-shirts pick up their T-shirts in that first week. But, of the 50 T-shirts picked up, only 25 are paid for in cash. For the other 25, you agree to accept payment next week. To evaluate the financial performance of your venture, you prepare cash accounting records at the end of this first week.

Statement of Cash Flows		Balance Sheet (Cash Basis)	
Receipts		Assets	
T-shirt sales	\$250	Cash	<u>\$275</u>
Payments		Equity	
T-shirt purchases	\$500	Beginning equity	\$700
Screen purchase	100	Less net cash outflow	<u>(425)</u>
Printing charges	75	Total equity	<u>\$275</u>
Total payments	<u>(675)</u>		
Net cash outflow	<u>\$(425)</u>		

The cash accounting records indicate you lost money. This surprises you. Yet, your cash balance confirms the \$425 cash loss. That is, you began with \$700 and now have \$275 cash—obviously, a net cash outflow of \$425 occurred. Consequently, you reassess your decision to pursue this venture. Namely, you had estimated cost per T-shirt as (assuming sales of 100 T-shirts): \$5 for plain T-shirt, \$1 for the screen, and \$0.75 cents for printing. This yields your total cost of \$6.75 per T-shirt. At a price of \$10, you expected a profit of \$3.25 per T-shirt. Yet your accounts indicate you lost money.

How can this be? After further analysis, you find the following problems with the cash basis income statement and balance sheet:

1. You have not recognized any revenues from the 25 shirts that have been sold on account (e.g., for which you have an account receivable).
2. You have treated all of the T-shirts purchased as an expense. Shouldn't this cost be matched with the revenues those T-shirts will produce when they are sold?
3. Likewise, you have treated all of the screen purchase and the T-shirt printing charges as an expense. Shouldn't this cost be matched ratably with the revenues that the screen will help generate when those revenues are recognized?

Taking these factors into consideration reveals that you have actually made a profit of \$162.50 in your first week:

Income Statement		Balance Sheet (Accrual Basis)	
Revenues		Assets	
T-shirt sales	\$500.00	Cash	\$275.00
		T-shirt inventory	337.50
		Receivables	250.00
		Total assets	<u>\$862.50</u>
Expenses		Equity	
T-shirt costs	\$250.00	Beginning equity	\$700.00
Screen depreciation	50.00	Add net income	162.50
Printing charges	37.50	Total equity	<u>\$862.50</u>
Total expenses	<u>(337.50)</u>		
Net income	<u>\$162.50</u>		

Your revenues now reflect all the T-shirt sales, even those for which payment has not yet been made. In addition, since only one-half of the T-shirts have been sold, only the cost of making the T-shirts sold is reflected as an expense, including the \$250 of fabric costs, \$37.50 of printing costs, and \$50 of the cost of the screen (even that may be too high a percentage if we expect the screen to produce more than 100 T-shirts). Given the profit we have recognized, equity also increases, suggesting that you could eventually take away more than what you invested in the venture.

Both the accrual income statement and balance sheet make more sense to you than recording under cash accounting. Nevertheless, you feel uncertain about the accrual numbers. They are less concrete than cash flows—that is, they depend on assumptions. For example, you assumed that everyone who bought a T-shirt on credit is eventually going to pay for them. If some customers don't pay, then your net income (and balance sheet numbers) will change. Another assumption is that unsold T-shirts in inventory are worth their cost. What is the basis for this assumption? If you can't sell them, they are probably worthless. But if you sell them, they are worth \$10 apiece. While the \$6.75 cost per T-shirt seems a reasonable compromise, you still are uncertain about this number's reliability. Yet overall, while the accrual numbers are more "soft," they make more sense than cash flows.

Accrual Accounting Framework

Accrual Concept

An appealing feature about cash flows is simplicity. Cash flows are easy to understand and straightforward to compute. There also is something tangible and certain about cash flows. They seem like the real thing—not the creation of accounting methods. But

unfortunately, when it comes to measuring cash-generating capacity of a company, cash flows are of limited use.

Most business transactions are on credit. Further, companies invest billions of dollars in inventories and long-term assets, the benefits of which occur over many future periods. In these scenarios, cash flow accounting (no matter how reliable it is) fails to provide a relevant picture of a company's financial condition and performance.

Accrual accounting aims to inform users about the consequences of business activities for a company's future cash flows as soon as possible with a reasonable level of certainty. This is achieved by recognizing revenue earned and expenses incurred, regardless of whether or not cash flows occur contemporaneously. This separation of revenue and expense recognition from cash flows is facilitated with *accrual adjustments*, which adjust cash inflows and cash outflows to yield revenues and expenses. Accrual adjustments are recorded after making reasonable assumptions and estimates, without materially sacrificing the reliability of accounting information. Accordingly, judgment is a key part of accrual accounting, and rules and institutional mechanisms exist to ensure reliability.

The next section begins by defining the exact relationship between accruals and cash flows. We show that accrual and cash accounting differ primarily because of timing differences in recognizing cash flow consequences of business activities and events. We then explain the accrual process of revenue and expense recognition and discuss two types of accruals, short term and long term.

Accruals and Cash Flows. To explore the relation between accruals and cash flows to the firm, it is important to recognize alternative types of cash flows. *Operating cash flow* refers to cash from a company's ongoing operating activities. *Free cash flow* to the firm reflects the added effects of investments and divestments in operating assets. The appeal of the free cash flow to the firm concept is that it represents cash that is free to be paid to both debt and equity holders. *Free cash flow to equity*, which we introduced in Chapter 1, adds changes in the firm's debt levels to free cash flow to the firm and, thereby, yields the cash flows that are available for equity holders. When economists refer to cash flow, they are usually referring to one of these free cash flow definitions, a convention we adopt in this book. Bottom line cash flow is *net cash flow*, the change in the cash account balance (note, cash includes cash equivalents for all these definitions).

Strictly defined, *accruals* are the sum of accounting adjustments that make net income different from net cash flow. These adjustments include those that affect income when there is no cash flow impact (e.g., credit sales) and those that isolate cash flow effects from income (e.g., asset purchases). Because of double entry, accruals affect the balance sheet by either increasing or decreasing asset or liability accounts by an equal amount. Namely, an accrual that increases (decreases) income will also either increase (decrease) an asset or decrease (increase) a liability.

What is included in accruals depends on the definition of cash flow. The most common meaning of accruals is accounting adjustments that convert operating cash flow to net income. This yields the following identity: **Net income = Operating cash flow + Accruals**. Under this definition, accruals are of two types: short-term accruals, which are related to working capital items, and long-term accruals, such as depreciation and amortization. We discuss these two types of accruals later in this chapter. Note that this definition of accruals does not include accruals that arise through the process of capitalization of costs related to property, plant, and equipment (PP&E) as long-term assets.

Accrual Accounting Reduces Timing and Matching Problems. The difference between accrual accounting and cash accounting is one of timing and matching. Accrual

accounting overcomes both the timing and the matching problems that are inherent in cash accounting. *Timing* problems refer to cash flows that do not occur contemporaneously with the business activities yielding the cash flows. For example, a sale occurs in the first quarter, but cash from the sale arrives in the second quarter. *Matching* problems refer to cash inflows and cash outflows that occur from a business activity but are not matched in time with each other, such as fees received from consulting that are not linked in time to wages paid to consultants working on the project.

Timing and matching problems with cash flows arise for at least two reasons. First, our credit economy necessitates that transactions, more often than not, do not involve immediate transfer of cash. Credit transactions reduce the ability of cash flows to track business activities in a timely manner. Second, costs often are incurred before their benefits are realized, especially when costs involve investments in plant and equipment. Thus, measuring costs when cash outflows occur often fails to reflect financial condition and performance.

Note that over the life of a company, cash flows and accrual income are equal. This is because once all business activities are concluded, the timing and matching problems are resolved. Yet, as economist John Maynard Keynes once remarked, “In the long run we are all dead.” This is meant to stress the importance of measuring financial condition and performance in the short run, typically at periodic points over the life of a company. The shorter these intervals, the more evident are the limitations of cash flow accounting.

Accrual Process—Revenue Recognition and Expense Matching. Accrual accounting is comprised of two fundamental principles, revenue recognition and expense matching, which guide companies on when to recognize revenues and expenses:

1. **Revenue recognition.** Revenues are recognized when both earned and either realized or realizable. Revenues are *earned* when the company delivers its products or services. This means the company has carried out its part of the deal. Revenues are *realized* when cash is acquired for products or services delivered. Revenues are *realizable* when the company receives an asset for products or services delivered (often receivables) that is convertible to cash. Deciding when revenues are recognized is sometimes difficult. While revenues are usually recognized at point-of-sale (when delivered), they also can be recognized, depending on the circumstances, when a product or service is being readied, when it is complete, or when cash is received. We further discuss revenue recognition in Chapter 6.
2. **Expense matching.** Accrual accounting dictates that expenses are matched with their corresponding revenues. This matching process is different for two major types of expenses. Expenses that arise in production of a product or service, called *product costs*, are recognized when the product or service is delivered. All product costs remain on the balance sheet as inventory until the products are sold, at which time they are transferred into the income statement as *cost of goods sold* (COGS). The other type of expenses is called *period costs*. Some period costs relate to marketing the product or service and are matched with revenues when the revenues to which they relate are recognized. Other period costs, such as administrative expenses, do not directly relate to production or sale of products or services. They are expensed in the period they occur, which is not necessarily when cash outflows occur. We further discuss matching criteria in Chapter 6.

Short- and Long-Term Accruals. *Short-term accruals* refer to short-term timing differences between income and cash flow. These accruals generate working capital items in the balance sheet (current assets and current liabilities) and are also called *working*

■■■■■■■
SALES SCAM

McKesson HBOC's stock price fell by nearly half when it admitted more than \$44 million in recorded revenues were not, in fact, realized. One warning sign: Operating cash flow fell early and well below earnings.

capital accruals. Short-term accruals arise primarily from inventories and credit transactions that give rise to all types of receivables and payables such as trade debtors and creditors, prepaid expenses, and advances received. *Long-term accruals* arise from capitalization. Asset *capitalization* is the process of deferring costs incurred in the current period whose benefits are expected in future periods. This process generates long-term assets such as plant, machinery, and goodwill. Costs of these assets are allocated over their benefit periods and make up a large part of long-term accruals—we provide further discussion in Chapter 4. Accounting for long-term accruals is more complex and subjective than that for short-term accruals (with the possible exception of inventories). Cash flow implications of short-term accruals are more direct and readily determinable. Accordingly, analysis research finds short-term accruals more useful in company valuation. (see Dechow, 1994)

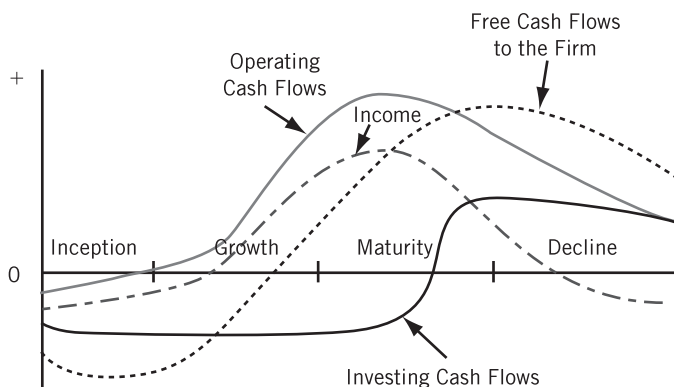
Relevance and Limitations of Accrual Accounting

This section gives a critical appraisal of the effects accrual accounting has on financial statements. We then discuss the conceptual and empirical strengths and weaknesses of accrual accounting relative to cash accounting for measuring performance and predicting future cash flows.

Relevance of Accrual Accounting

Conceptual Relevance of Accrual Accounting. The conceptual superiority of accrual accounting over cash flows arises because the accrual-based income statement (and balance sheet) is more relevant for measuring a company's present and future cash-generating capacity. Both short-term and long-term accruals are important for the relevance of income vis-à-vis cash flows as described here:

- **Relevance of short-term accruals.** Short-term accruals improve the relevance of accounting by helping record revenues when earned and expenses when incurred. These accruals yield an income number that better reflects profitability and also creates current assets and current liabilities that provide useful information about financial condition.
- **Relevance of long-term accruals.** To see the import of long-term accruals, note that free cash flow to the firm is computed by subtracting investments in long-term operating assets from operating cash flow. Such investments pose problems for free cash flow. First, these investments are usually large and occur infrequently. This induces volatility in free cash flow. Second, free cash flow treats capital growth and capital replacement synonymously. Investments in new projects often bode well for a company and the market usually reacts positively to such capital expenditures. Yet all capital expenditures reduce free cash flow. This problem with free cash flow is evident from typical patterns of operating and investing cash flows, and their sum, free cash flows to the firm, over a company's life cycle as shown in Exhibit 2.3. Investing cash flows are negative until late maturity, and these outflows dominate operating cash inflows during most of the growth phase. This means free cash flow tends to be negative until the company's business matures. In late maturity and decline, a company divests its assets, generating positive investing cash flows and, hence, positive free cash flow. This means free cash flow is negative in the growth stage but positive in the decline stage, sending a *reverse* message about a company's prospects. Operating cash flows are not affected by operating investments as they ignore them.

Cash Flows and Income over a Company's Life Cycle**Exhibit 2.3**

Accrual accounting overcomes these limitations in free cash flow by capitalizing investments in long-term assets and allocating their costs over future benefit periods. This process of capitalization and allocation improves the relevance of income both by reducing its volatility and by matching costs of long-term investments to their benefits. The superiority of accruals in providing relevant information about a company's financial performance and condition, and for predicting future cash flows, is explained as follows:

- **Financial performance.** Revenue recognition and expense matching yields an income number superior to cash flows for evaluating financial performance. Revenue recognition ensures all revenues earned in a period are accounted for. Matching ensures that only expenses attributable to revenues earned in a period are recorded.
- **Financial condition.** Accrual accounting produces a balance sheet that more accurately reflects the level of resources available to the company to generate future cash flows.
- **Predicting future cash flows.** Accrual income is a superior predictor of future cash flows than are current cash flows for at least two reasons. First, through revenue recognition, it reflects future cash flow consequences. For example, a credit sale today forecasts cash to be received from the customer in the future. Second, accrual accounting better aligns inflows and outflows over time through the matching process. This means income is a more stable and dependable predictor of cash flows.

Empirical Relevance of Accrual Accounting. Critics of accrual accounting decry its lower reliability and prefer reliable cash flows. Supporters assert the added relevance of accrual accounting compensates for lower reliability. They also point to institutional mechanisms, such as GAAP and auditing, that ensure at least a minimum acceptable reliability. To see whether accrual accounting works, let's examine how well accrual income and cash flows measure a company's financial performance.

To examine this question, consider these two retailers, Wal-Mart and Kmart. Exhibit 2.4 shows split-adjusted per-share stock price, net income, and free cash flow numbers for both companies over the 10-year period 1989–1998. Wal-Mart and Kmart

**SALES WATCH**

If accounts receivables are rising faster than sales, special scrutiny is warranted.

**CASH WATCH**

A company posting strong income growth but negative or low operating cash flow warrants special scrutiny.

Exhibit 2.4**Comparison of Stock Price, Net Income, and Free Cash Flow—Wal-Mart and Kmart**

Fiscal year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Wal-Mart										
Stock price	4.22	5.33	8.25	13.47	16.28	13.25	11.44	10.19	11.87	19.91
Net income	0.18	0.24	0.28	0.35	0.44	0.51	0.58	0.60	0.67	0.78
Free cash flow	0.04	(0.01)	(0.05)	(0.17)	(0.48)	(0.50)	(0.19)	(0.21)	0.84	0.60
Kmart										
Stock price	18.94	16.62	15.50	24.50	23.25	19.63	13.63	5.88	11.13	11.00
Net income	2.00	0.81	1.89	2.02	2.07	(2.13)	0.64	(1.24)	(0.45)	0.51
Free cash flow	1.76	(2.26)	0.20	(0.47)	(2.15)	1.29	2.71	0.48	0.61	1.35

All figures are split-adjusted dollars per share from Compustat.

present an interesting contrast for this period. Wal-Mart is a growth company that has seen its market capitalization grow fivefold in this period. Kmart is arguably in decline and has experienced a 60 percent fall in market capitalization from 1994 to 1998. Since 1994, Kmart has struggled to restructure and focus its business, mainly through divesting unprofitable divisions.

Wal-Mart's income pattern is striking—the company's net income per share has grown fourfold in these 10 years, with a minimum growth of 10 percent each year. This growth pattern in net income is consistent with Wal-Mart's underlying business performance as reflected in its stock price. In contrast, Kmart's net income per share peaked in 1993 and has declined since. The net income pattern reflects the underlying economics of Kmart's business, especially the reversal of fortunes since 1994.

Unlike net income, free cash flow is not informative about either company's activities. Wal-Mart's free cash flow is markedly negative between 1990 and 1996, a period when its market capitalization doubled. From 1997, however, its free cash flow increased. The free cash flow of Kmart reveals an even more perverse relation between its performance and stock prices. Kmart's free cash flow is negative in three out of four years from 1990 to 1993, a period in which Kmart's stock increased almost 50%. However, since 1994, Kmart's free cash flow is consistently positive, while its market capitalization decreased 60%. Free cash flow appears to be a reverse indicator of performance: when free cash flow is negative, Kmart is profitable and growing; but when free cash flow turns positive, Kmart is in decline or growth is slowing.

What drives the reverse relation between free cash flow and performance for both Wal-Mart and Kmart? For an answer we need to look back at Exhibit 2.3 and the related discussion on cash flow patterns over a company's life cycle. Wal-Mart is probably nearing the end of its growth cycle and is entering maturity. Until recently, it generated negative free cash flow as it consistently spent more cash on growth than it was earning from operations. Wal-Mart's free cash flow surged in recent years both because its growth cooled and because its earlier investments are now yielding operating cash flows. Notice that Wal-Mart's cash flow patterns are consistent with the life-cycle model for a company transitioning from growth to maturity. In contrast, Kmart is probably in decline. As predicted by the life-cycle model, Kmart's investing cash flows since 1994 are positive, reflecting its downsizing as it sells assets. Cash flows generated from Kmart's divestments yield large positive free cash flow, even though its operating cash flows decline during this period.

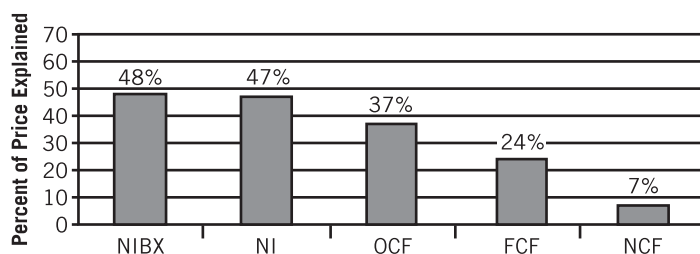
To appreciate the limitation of free cash flow and the power of accrual income to measure financial performance, try to predict the performance of both Wal-Mart and Kmart using the pattern in net income and free cash flow for this period. For Wal-Mart, free cash flow portrays a dismal company—one that, until recently, bled cash. On the other hand, Wal-Mart's net income series shows a picture of consistent growth and profitability. Turning to Kmart, free cash flow reveals a marked upturn in business with positive free cash flow since 1994. Yet, Kmart's net income series suggests looming financial difficulties for the past five years. Which measure, accrual income or free cash flow, better reflects reality? Which measure would have been more useful to you as an equity investor in predicting stock prices? To answer these questions, compare these performance measures to the companies' actual stock prices over this period. This comparison shows the power of net income in tracking stock prices relative to free cash flow.

While this example is dated and Kmart is no longer a retail company, this example adequately serves to illustrate the advantages of accrual-based income numbers.

One case does not make a rule. Could the Kmart and Wal-Mart cases be unique in that free cash flow is otherwise superior to net income as a value indicator? To pursue this question, let's look at the relation between alternative income and cash flow measures with stock prices for a large sample of firms for a recent 10-year period. This evidence is shown in Exhibit 2.5. Here we see measures of R-squared that reflect the ability of performance measures in explaining stock prices. Note that both income measures (NI and NIBX) are better than either operating cash flow (OCF) or free cash flow (FCF) in explaining stock prices. Also, net cash flow (change in cash balance) is entirely uninformative.

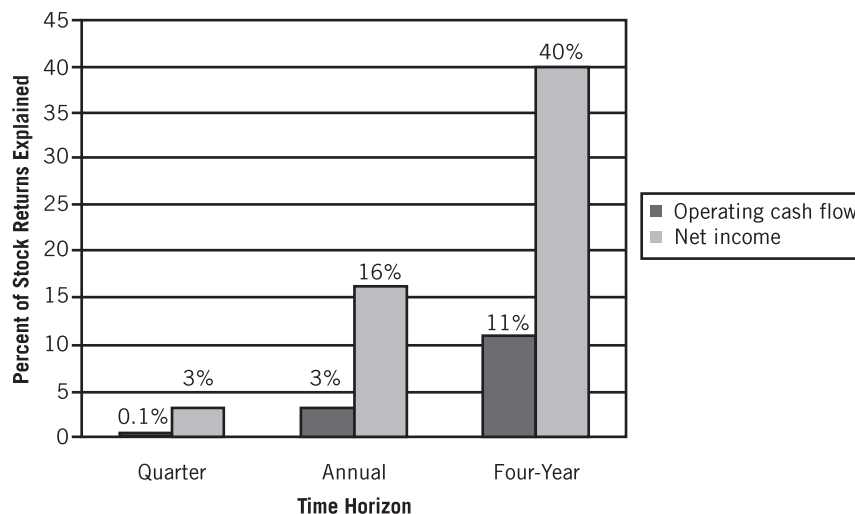
Relation between Stock Prices and Various Income and Cash Flow Measures

Exhibit 2.5



Analysis using 7,338 firms for the period 1993–2003 from Compustat. Graph depicts R-squared of regressions between end-of-period price and various cash flow and income measures. NIBX = Net income before extraordinary items and discontinued operations; NI = Net income; OCF = Operating cash flow; FCF = Free cash flow; NCF = Net cash flow (change in cash).

A main difference between accrual accounting and cash flow accounting is timeliness in recognizing business activities. Accrual income recognizes the effects of most business activities in a more timely manner. For evidence of this, let's look at the relation between stock returns, net income, and operating cash flow over different time horizons. If we assume stock prices impound the effects of business activities in a timely manner, then the relation between stock returns and alternative performance measures reflects on the timeliness of these measures. Exhibit 2.6 shows evidence of the ability of net income and operating cash flow to explain stock returns over quarterly, annual, and four-year horizons. Net income dominates operating cash flows over all horizons.

Exhibit 2.6
Relation between Stock Returns and Both Net Income (NI) and Operating Cash Flow (OCF) for Different Time Horizons


Source: Dechow, P. M., *Journal of Accounting and Economics* 18, 1994.

While net income's timeliness is less impressive for shorter horizons, its superiority over operating cash flow is maintained. Operating cash flow's ability to explain stock returns over short horizons (quarterly and annual) is especially poor. This evidence supports the notion that accrual income reflects the effects of business activities in a more timely manner than do cash flows.

Analysis Implications of Accrual Accounting

Accrual accounting is ingrained in modern business. Wall Street focuses on accrual income, not cash flows. We know that accrual accounting is superior to cash accounting in measuring performance and financial condition, and in forecasting future cash flows. Still, accrual accounting has limitations. Consequently, should accrual accounting numbers always be used in business analysis and valuation, or should they sometimes be abandoned in favor of hard cash flows? If accrual accounting is used, how does one deal with its limitations? What is the role of cash flows in a world of accrual accounting? This section provides some answers to these questions. We begin with the myths and truths of both accrual and cash accounting. Then, we discuss the role of accruals and cash flows in financial statement analysis.

Myths and Truths about Accruals and Cash Flows

Several assertions exist regarding accruals and cash flows—both positive and negative. It is important for an analyst to know which assertions are true and which are not.

Accruals and Cash Flows—Myths. There are several myths and misconceptions about accrual accounting, income, and cash flow:

- Myth: *Because company value depends on future cash flows, only current cash flows are relevant for valuation.* Even if we accept that company value depends only on future

cash flows, there is no reason to necessarily link current cash flows with future cash flows. We already showed that current income is a better predictor of future cash flows than is current cash flow. We also showed that income better explains stock prices than does cash flow.

- Myth: *All cash flows are value relevant.* Many types of cash flows do not affect company value—for example, cash collected from customers on account. Also, certain types of cash flows are negatively related to company value—for example, capital expenditures reduce free cash flow but usually increase company value. Exhibit 2.7 provides additional examples.

Effects of Transactions on Income, Free Cash Flow, and Company Value

Exhibit 2.7

Transaction	Income Effect	Free Cash Flow Effect	Company Value Effect (Present Value of Future Dividends)
Sales on credit	Increase	Nil	Increase
Cash collections on credit sales	Nil	Increase	Nil
Inventory markdowns	Decrease	Nil	Decrease
Change depreciation from straight-line to declining balance	Decrease	Nil	Nil
Cash purchase of plant asset	Nil	Decrease	Nil*

*If the plant asset produces a return on investment in excess of the cost of capital it will increase company value.

- Myth: *All accrual accounting adjustments are value irrelevant.* It is true that “cosmetic” accounting adjustments such as alternative accounting methods for the same underlying business activity do not yield different valuations. However, not all accounting adjustments are cosmetic. A main goal of accrual accounting is to make adjustments for transactions that have future cash flow implications, even when no cash inflows or cash outflows occur contemporaneously—an example is a credit sale as shown in Exhibit 2.7.
- Myth: *Cash flows cannot be manipulated.* Not only is this statement false, it is probably easier to manipulate cash flow than to manipulate income. For example, cash flows can be increased by delaying either capital expenditures or the payment of expenses, or by accelerating cash collections from customers.
- Myth: *All income is manipulated.* Some managers do manage income, and the frequency of this practice may be increasing. However, SEC enforcement actions targeted at fraudulent financial reporting and restatements of previously issued financial statements affect a small percentage of publicly traded companies.
- Myth: *It is impossible to consistently manage income upward in the long run.* Some users assert it is impossible to manage income upward year after year because accounting rules dictate that accruals eventually reverse—that is, accrual accounting and cash accounting coincide in the long run. Still, most companies can aggressively manage income upward for several years at a time. Further, a growth company can manage income upward for an even longer period because current period upward adjustments likely exceed the reversal of smaller adjustments from prior years. Also, some companies take a “big bath” when they experience a bad period to recognize delayed expenses or aggressively record future expenses. This enables a company to more

Analysis Research

RELATIVE PERFORMANCE OF CASH FLOWS AND ACCRUALS

The relative ability of cash flows and accruals in providing value-relevant information is the focus of much research. One line of research addresses this issue by examining the relative ability of cash flows and accruals in explaining stock returns, under the assumption that stock price is the best indicator of a company's intrinsic value. Evidence reveals that both operating cash flows and accruals provide incremental value-relevant information. Yet, net income (which is the sum of accruals and operating cash flows) is superior to operating cash flows in explaining stock returns. The superiority of income is especially evident for short horizons; recall that the difference between income and cash flows is mainly timing and, thus, over long horizons—say, five or more years—income and operating cash flows tend to converge. Operating cash flows tend to perform poorly

for companies where the timing and matching problems of cash flows are more pronounced.

The use of stock price as an indicator of intrinsic value is questioned by recent evidence that the market might be attaching more weight than warranted to the accrual component of income, possibly because of a *fixation* on bottom line income. This evidence indicates that operating cash flows are more persistent than accruals and that the market overestimates the ability of accruals to predict future profitability. That is, abnormal returns can be earned from a strategy of buying stocks of companies with the lowest accruals and shorting those with the highest accruals.

Research also shows income is superior to operating cash flow in predicting future income. However, evidence relating to the relative ability of income and operating cash

flow in predicting future cash flow is mixed. While operating cash flow is superior to income in predicting operating cash flow, especially over the short run, both income and operating cash flow are useful in this task. This research also reveals the usefulness of investing and financing cash flows for prediction purposes.

In sum, while the preponderance of research shows the superiority of accruals over cash flows in providing value-relevant information, *both* accruals and cash flows are incrementally useful. This suggests that accruals, income, and cash flow should be viewed as complements rather than substitutes. Research also shows that the relative importance of accruals and cash flows depends on characteristics such as industry membership, operating cycle, and the point in a company's life cycle.

easily manage income upward in future periods because of fewer reversals from prior accruals.

Accruals and Cash Flows—Truths. Logic and evidence point to several notable truths about accrual accounting, income, and cash flow:

- Truth: *Accrual accounting (income) is more relevant than cash flow.* Both conceptually and practically, accrual income is more relevant than cash flow in measuring financial condition and performance and in valuation. Note this statement does not challenge the obvious relevance of *future* cash flows. Instead, it points out that *current* cash flow is less relevant than current income.
- Truth: *Cash flows are more reliable than accruals.* This statement is true and it suggests cash flows can and do play an important complementary role with accruals. However, extreme statements, such as “cash flows cannot be manipulated,” are untrue. When analyzing cash flows, we also must remember they are more volatile than income.
- Truth: *Accrual accounting numbers are subject to accounting distortions.* The existence of alternative accounting methods along with earnings management reduces both comparability and consistency of accrual accounting numbers. Also, arbitrary accounting rules and estimation errors can yield accounting distortions. A financial analysis or valuation that ignores these facts, and accounting adjustments, is likely

to produce erroneous results. For example, a valuation method that simply uses price-to-earnings ratios computed using reported income is less effective.

- Truth: *Company value can be determined by using accrual accounting numbers.* Some individuals wrongly state that value is determined *only* on the basis of discounted cash flows. Chapter 1 showed that we also can determine value as the sum of current book value and discounted future residual income.

Should We Forsake Accruals for Cash Flows?

Some advocate abandoning valuation models based on accrual income in favor of a cash flow model. Often underlying this position is an attitude that accrual accounting is unscientific and irrelevant. Cash, as they say, is king. Yet, this is an attitude of extremism.

We know accrual accounting is imperfect, and that arbitrary rules, estimation errors, and earnings management distort its usefulness. We also know that accrual accounting is better than cash flows in many respects—it is conceptually superior and works practically. Consequently, abandoning accrual accounting because of its limitations and focusing only on cash flows, is throwing the baby out with the bath water. There is an enormous amount of valuable information in accrual accounting numbers.

This book takes a constructive view toward accrual accounting. That is, despite its quirks, it is useful and important for financial analysis. Our approach to analysis is to be aware of the limitations in accrual accounting and to evaluate and adjust reported numbers in financial statements through a process of accounting analysis. By this process an analyst is able to exploit the richness of accrual accounting and, at the same time, reduce its distortions and limitations. Cash flows also are important for analysis. They provide a reliability check on accrual accounting—income that consistently deviates from cash flows is usually of lower quality. Also, as we note in Chapter 1, analysis of the sources and uses of funds (or cash flows) is crucial for effective financial analysis.

.....**CONCEPT OF INCOME**

The previous section explained accrual accounting and its superiority to cash-basis accounting. Crucial to accrual accounting is the concept of income and its distinction from cash flow. **Income** (also referred to as **earnings** or **profit**) summarizes, in financial terms, the net effects of a business's operations during a given time period. It is the most demanded piece of company information by the financial markets. Determining and explaining a business's income for a period is the main purpose of the income statement. Conceptually, income purports to provide both a measure of the change in stockholders' wealth during a period and an estimate of a business's current profitability, that is, the extent to which the business is able to cover its costs of operations and earn a return for its shareholders. Understanding this dual role of income is important for analysis. In particular the latter role of income, that is, indicator of firm profitability, is of crucial importance to an analyst because it aids in estimating the future earning potential of the business, which arguably is one of the most important tasks in business analysis.

Accounting, or reported, income is different from economic income. This is because accountants use different criteria to determine income. To illustrate this point, consider a company with \$100,000 in cash. This company uses the \$100,000 to buy a condominium, which it rents out for \$12,000 per year. At the end of the first year the

company still owns the condo, which is valued at \$125,000. Let's begin our analysis by determining various cash flow measures. Free cash flow for the year is \$(88,000), while operating cash flow is \$12,000. Does either of these measures indicate how much the shareholders earned during the period? No. For that we need to determine income. First, let us compute *economic income*. Economic income measures the change in shareholders' wealth during a period. Obviously the \$12,000 in rental income increased shareholders' wealth. In addition, the condo appreciated by \$25,000 during the year, which also increased shareholders' wealth. Therefore, economic income for the year is \$37,000 (rental income, \$12,000, plus holding gain, \$25,000). *Accounting income*, which is based on accrual accounting, depends on the depreciation policy for the condominium. Namely, if the condominium's useful life is 50 years and its salvage value is \$75,000, then yearly straight-line depreciation for the year is \$500 [computed as $(\$100,000 - \$75,000)/50$ years]. This yields an accounting income of \$11,500 (rental income of \$12,000 less \$500 depreciation) for the year. This illustration shows that economic income differs from accounting income, and both differ from the cash flow measures.

We might also notice that the \$37,000 economic income is probably not sustainable. That is, we can't count on a 25% annual appreciation in the condominium's value year after year. This implies the economic income of \$37,000 is less useful for forecasting future earnings. Accounting income of \$11,500—at least in this case—is probably closer to *permanent* or *sustainable* income, which would help us estimate future earnings. However, while the \$25,000 holding gain cannot be sustained, note that it is not entirely useless for forecasting future income; if the \$25,000 increase in the condo value is permanent (i.e., the condominium value is not expected to immediately revert back to \$100,000), then it is reasonable to assume that returns from owning the condo (i.e., rental income) might increase in the future.

Understanding alternative income concepts and relating these concepts to accounting income is helpful in business analysis. A major task in financial statement analysis is evaluating and making necessary adjustments to income to improve its ability to reflect business performance and forecast future earnings. In this section, we discuss alternative concepts of income, in particular, permanent income and economic income. Then, we discuss accounting income, relate it to the alternative income concepts, and describe the analysis implications.

Economic Concepts of Income

Economic Income

Economic income is typically determined as cash flow during the period plus the change in the present value of expected future cash flows, typically represented by the change in the market value of the business's net assets. Under this definition, income includes both realized (cash flow) and unrealized (holding gain or loss) components. This concept of income is similar to how we measure the return on a security or a portfolio of securities—that is, return includes both dividends and capital appreciation. Economic income measures *change* in shareholder value. As such, economic income is useful when the objective of analysis is determining the exact return to the shareholder for the period. In a sense, economic income is the bottom-line indicator of company performance—measuring the financial effects of all events for the period in a comprehensive manner. However, because of its comprehensive nature, economic income

includes both recurring and nonrecurring components and is therefore less useful for forecasting future earnings potential.

Permanent Income

Permanent income (also called *sustainable income* or *recurring income*) is the stable average income that a business is expected to earn over its life, given the current state of its business conditions. Permanent income reflects a long-term focus. Because of this, permanent income is conceptually similar to *sustainable earning power*, which is an important concept for both equity valuation and credit analysis. Benjamin Graham, the mentor of investing guru Warren Buffett and the father of fundamental analysis, maintained that the single most important indicator of a company's value is its sustainable earning power. Unlike economic income, which measures *change* in company value, permanent income is directly proportional to company value. In particular, for a going concern, company value can be expressed by dividing permanent income by the cost of capital. Because of this relation, determining a company's permanent income is a major quest for many analysts. However, although permanent income has a long-term connotation, it can change whenever the long-term earnings prospects of a company are altered.

Operating Income

An alternative concept is that of **operating income**, which refers to income that arises from a company's operating activities. Finance text books often refer to this income measure as *net operating profit after tax* (NOPAT). The key feature of operating income is that it excludes all expenses (or income) that arises from the business's *financing activities* (i.e., the treasury function), such interest expense and investment income, which collectively are called **nonoperating income**. Operating income is an important concept in valuation its importance arises from the goal of corporate finance to separate the operating activities of the business from the financing (or treasury) activities. Conceptually, operating income is a distinctly different concept to that of permanent income; operating income may include certain nonrecurring components such as restructuring charges, while recurring components such as interest expense are excluded from operating income.

Accounting Concept of Income

Accounting income (or **reported income**) is based on the concept of accrual accounting. While accounting income does reflect aspects of both economic income and permanent income, it does not purport to measure either income concept. Also, accounting income suffers from measurement problems that reduce its ability to reflect economic reality. Consequently, a major task in financial statement analysis is adjusting accounting income to better reflect alternative economic concepts of income. This section describes the process by which accountants determine income. It then discusses analysis implications, including conceptual approaches to adjusting income for analysis purposes.

Revenue Recognition and Matching

A main purpose of accrual accounting is income measurement. The two major processes in income measurement are revenue recognition and expense matching.

Revenue recognition is the starting point of income measurement. The two necessary conditions for recognition are that revenues must be:

- **Realized or realizable.** For revenue to be recognized, a company should have received cash or a reliable commitment to remit cash, such as a valid receivable.
- **Earned.** The company must have completed all of its obligations to the buyer; that is, the earning process must be complete.

Once revenues are recognized, related costs are *matched* with recognized revenues to yield income. Note that an expense is incurred when the related economic event occurs, not necessarily when the cash outflow occurs.

Accounting versus Economic Income

Conceptually, accrual accounting converts cash flow to a measure of income. Recall that economic income differs from cash flow because it includes not only current cash flows but also changes in the present value of future cash flows. Similarly, recall that accrual accounting attempts to obtain an income measure that considers not only current cash flow but also future cash flow implications of current transactions. For example, accrual accounting recognizes future cash flows of credit sales by reporting revenue when the sale is consummated and before cash is received. In some respects, therefore, there is some similarity between accounting measures of income and economic income. However, accounting income does not purport to measure either economic or permanent income. Rather, it is based on a set of rules that have evolved over a long period of time to cater to several, often conflicting, objectives. It is a product of the financial reporting environment that involves accounting standards, enforcement mechanisms, and managers' incentives. It is governed by accounting rules, many of which are economically appealing and some of which are not. These rules often require estimates, giving rise to differential treatment of similar economic transactions and allowing opportunities for managers to window-dress numbers for personal gain. For all these reasons, accounting income can diverge from economic income concepts.

Some reasons accounting income differs from economic income include:

- **Alternative income concepts.** The concept of economic income is very different from the concept of permanent income. Accounting standard setters are faced with a dilemma involving which concept to emphasize. While this problem is partially resolved by reporting alternative measures of income (which we discuss subsequently in Chapter 6), this dilemma sometimes results in inconsistent measurement of accounting income. Some standards, for example, *SEAS 87* on pensions, adopt the permanent income concept, while other standards, for example, *SEAS 115* on marketable securities, adopt the economic income concept.
- **Historical cost.** The historical cost basis of income measurement introduces divergence between accounting and economic income. The use of historical cost affects income in two ways: (1) the current cost of sales is not reflected in the income statement, such as under the FIFO inventory method, and (2) unrealized gains and losses on are not recognized.
- **Transaction basis.** Accounting income usually reflects effects of transactions. Economic effects unaccompanied by an arm's-length transaction often are not considered. For example, purchase contracts are not recognized in the financial statements until the transactions occur.
- **Conservatism.** Conservatism results in recognizing income-decreasing events immediately, even if there is no transaction to back it up—for example, inventory

write-downs. However, the effect of an income-increasing event is delayed until realized. This creates a conservative (income decreasing) bias in accounting income.

- **Earnings management.** Earnings management causes distortions in accounting income that has little to do with economic reality. However, one form of earnings management—income smoothing—may, under some conditions, improve the ability of accounting income to reflect permanent income.

As noted earlier, accounting standards are moving away from historical cost and transaction basis toward a model of fair value accounting. This move is significant because it brings bottom-line income (called comprehensive income) closer to the concept of economic income.

Permanent, Transitory, and Value Irrelevant Components

We note that accounting income attempts to capture elements of both permanent income and economic income, but with measurement error. Accordingly, it is useful to view accounting income as consisting of three components:

1. **Permanent component.** The permanent (or *recurring*) component of accounting income is expected to persist indefinitely. It has characteristics identical to the economic concept of permanent income. For a going concern, each dollar of the permanent component is equal to $1/r$ dollar of company value, where r is the cost of capital.
2. **Transitory component.** The transitory (or *nonrecurring*) component of accounting income is not expected to recur—it is a one-time event. It has a dollar-for-dollar effect on company value. The concept of economic income includes both permanent and transitory components.
3. **Value irrelevant component.** Value irrelevant components have no economic content—they are accounting distortions. They arise from the imperfections in accounting. Value irrelevant components have zero effect on company value.

Analysis Implications

Adjusting accounting income is an important task in financial analysis. Before making any adjustments, it is necessary to specify the analysis objectives. In particular, it is important to determine whether the objective is determining economic income or permanent income of the company. This determination is crucial because economic income and permanent income differ in both nature and purpose, and accordingly, the adjustments necessary to determine each measure can differ substantially. We briefly discuss some conceptual issues relating to adjusting income in this section. Refer to Chapter 6 for a more detailed discussion of income measurement issues.

Adjustments for Permanent Income

We already noted that determining a company's permanent income (sustainable earning power) is a major quest in analysis. For this purpose, an analyst needs to first determine the permanent (or recurring) component of the current period's accounting income by identifying and appropriately excluding, or smoothing, transitory (nonrecurring) components of accounting income. For example, an analyst may exclude gain on sale of a major business segment when determining the permanent component of earnings. Such adjusted

earnings are often referred to as **core earnings** by practicing analysts. Determining the current period's core earnings is useful for interpreting a company's P/E ratio. It is also useful for valuation techniques using earnings' multiples. Further, determining core earnings is also useful when forecasting earnings or cash flows by giving a meaningful "starting point" for the forecasting exercise and in helping derive assumptions used in forecasting.

However, we caution that the current period's core earnings are not always a good estimate of the company's permanent income. To represent permanent income, a company's core earnings must reflect the long-term earning power of the company. Current period's core earnings may not reflect a company's long-term earnings prospects for two reasons. First, although core earnings exclude components of income that are clearly identified as being transitory, there is no guarantee that the components included in determining core earnings are necessarily permanent in nature. This is especially true if the company's performance in the current period is unusual for any reason. For example, the company's sales and earnings in a year may be unusually low because of protracted labor unrest at its principal production facility. Second, an analyst must consider any long-term changes to the company's business conditions that are reflected in the non-recurring earnings' components. For example, a company may have written down fixed assets because of adverse business conditions in one of its divisions. Such an asset write-down is transitory and should not be included in core earnings for the period. However, the asset write-down does reflect the diminished future earnings prospects for a division of the company, and this information must be factored by the analyst when determining permanent income. These caveats notwithstanding, determining core earnings is an important first step in estimating a company's permanent income.

Adjustments for Economic Income

To adjust accounting income for determining economic income, we need to adopt an inclusive approach whereby we include all income components whether recurring or nonrecurring. One way to view economic income is the net change in shareholders' wealth that arises from nonowner sources; hence it includes everything that changes the net wealth of shareholders. When we make adjustments to obtain economic income, we need to realize the adjusted numbers are not faithful representations of economic income because we cannot determine the change in the value of fixed assets, which are recorded at historical cost. It is also more difficult to justify the need for making adjustments to determine economic income than for determining permanent income. However, economic income serves as a comprehensive measure of change in shareholder wealth and is thus useful as the bottom-line indicator of economic performance for the period.

Adjustment for Operating Income

When determining operating earnings, practicing analysts often start off with core earnings from which they exclude nonoperating income components such as interest expense. However, as we note earlier, operating earnings includes all revenue and expense components that pertain to the company's operating business, regardless of whether they are recurring or nonrecurring. Whether operating income should include or exclude nonrecurring items is a debatable point and will depend on the analysis objectives.

For the purpose of consistency, in this book we refer to operating income strictly with reference to where the income was generated, that is, the operating business

activities rather than the treasury function, without regard to whether it is recurring or nonrecurring. Therefore, we shall view the operating/nonoperating and the recurring/nonrecurring dimensions for classifying income as independent or mutually exclusive.

.....FAIR VALUE ACCOUNTING

For more than 400 years, financial accounting has been primarily based on the *historical cost* model. Under the historical cost model, asset and liability values are determined on the basis of prices obtained from *actual transactions* that have occurred in the past. For example, the reported value of land on the balance sheet is based on the price at which it was originally purchased, and the reported value of finished goods inventory is typically determined by the cost of production based on the actual prices paid for inputs used. Income is determined primarily by recognizing revenue that was earned and realized during the period and matching costs with recognized revenues. Some deviations from historical costs are permitted primarily on a *conservative* basis. For example, inventories are valued using the lower-of-cost-or-market-value (LORCOM) rule.

An alternative to the historical cost model is *fair value* accounting. Under the fair value accounting model, asset and liability values are determined on the basis of their fair values (typically market prices) on the *measurement date* (i.e., approximately the date of the financial statements). For example, under this model, the reported value of land on the balance sheet would represent its market price on the date of the balance sheet, and the reported value of finished goods inventory would represent its estimated current sales price less any direct costs of selling. Income, under this model, simply represents the net change in the fair values of assets and liabilities during the period.

Accounting is slowly but inexorably moving toward the fair value accounting model. While fair value accounting has been applied on a selective basis during the past 20 years, there has recently been significant progress toward its widespread adoption. *SEAS 157* provides basic guidelines for adopting the fair value accounting model and *SEAS 159* recommends its voluntary adoption for a wide class of assets and liabilities. While the use of fair value accounting is still limited primarily to financial assets and liabilities—such as marketable securities or debt instruments—there are indications that a comprehensive adoption of fair value accounting for all assets and liabilities—including operating assets and liabilities—is possible in the future.

The adoption of fair value accounting constitutes a revolution in financial accounting. For better or worse, the adoption of fair value accounting will fundamentally alter the nature of the financial statements. It is therefore crucial for an analyst to understand how fair value accounting affects the financial statements and to appreciate its implications for financial statement analysis. Accordingly, in this section we will provide a broad conceptual discussion of fair value accounting and its implications for analysis. More detailed discussion of *SEAS 157* and *SEAS 159* along with actual disclosures under these standards will be discussed in Chapter 5.

Understanding Fair Value Accounting

An Example

To understand how fair value accounting works and how it relates to the traditional historical cost accounting model, we go back to the example with the real estate company presented in the previous section with some minor modifications. Specifically, a company starts Year 1 raising \$100,000 in cash; \$50,000 from issuing equity and \$50,000 from issuing 6% bonds (at par). This company uses the \$100,000 raised to buy a condominium

Exhibit 2.8 Historical Cost versus Fair Value Example

■ ■ ■ ■ ■ ■ ■ ■

Balance Sheet	Year 1 (Opening)		Year 1 (Closing)		Year 2 (Closing)	
	Historical		Historical		Historical	
	Cost	Fair Value	Cost	Fair Value	Cost	Fair Value
Assets						
Cash			\$ 9,000	\$ 9,000	\$ 18,500	\$ 18,500
Condominium	\$100,000	\$100,000	99,500	125,000	99,000	110,000
	<u>\$100,000</u>	<u>\$100,000</u>	<u>\$108,500</u>	<u>\$134,000</u>	<u>\$117,500</u>	<u>\$128,500</u>
Liabilities and Shareholder's Equity						
Long-term debt	\$ 50,000	\$ 50,000	\$ 50,000	\$ 48,000	\$ 50,000	\$ 50,500
Shareholders' equity	50,000	50,000	58,500	86,000	67,500	78,000
	<u>\$100,000</u>	<u>\$100,000</u>	<u>\$108,500</u>	<u>\$134,000</u>	<u>\$117,500</u>	<u>\$128,500</u>
Income Statement						
			Year 1		Year 2	
			Historical		Historical	
			Cost	Fair Value	Cost	Fair Value
Rental income			\$12,000	\$12,000	\$12,500	\$12,500
Depreciation			(500)		(500)	
Interest expense			(3,000)	(3,000)	(3,000)	(3,000)
Unrealized gain/loss on condo				25,000		(15,000)
Unrealized gain/loss on debt				2,000		(2,500)
Income (loss)			<u>\$ 8,500</u>	<u>\$36,000</u>	<u>\$ 9,000</u>	<u>(\$ 8,000)</u>

on that day, which it rents out for \$12,000 per year. At the end of Year 1, the company still owns the condo, which is valued at \$125,000. Also, the market value of the bonds has fallen to \$48,000. Now also assume that during Year 2, the company earns rental income of \$12,500, the condo is valued at \$110,000 at year-end, and the market value of the bonds has increased to \$50,500. Assume the condo's useful life is 50 years and its salvage value is \$75,000 at the end of that period. Also assume that rental income (interest on bonds) is received (paid) in cash on the last day of the year.

Exhibit 2.8 presents the balance sheets and income statements for this example based on the historical cost and the fair value accounting models. Obviously, balance sheets under both models are identical at the beginning of Year 1. The two models start diverging after that. At the end of Year 1, the historical cost model values the condo at \$99,500, which is equal to its purchase price (\$100,000) less accumulated depreciation (\$500). The fair value model, on the other hand, values the condo at its market value at the end of Year 1 (i.e., its fair value) of \$125,000. The cash balance at the end of Year 1 is \$9,000, which is equal to the rental income received (\$12,000) less interest paid on bonds (\$3,000); both models report the identical amount of cash balance. Turning to the liabilities side of the balance sheet, we note that the historical cost model continues to report the bonds at the issue price of \$50,000, whereas the fair value accounting model values the bonds at its current market value of \$48,000.

We next turn to the income statement. Both rental income (\$12,000) and interest expense (\$3,000) are recognized similarly under the two alternative models. In addition, the historical cost model recognizes depreciation of \$500 [$[(100,000 - 75,000) \div 50]$], resulting in income during Year 1 of \$8,500. The fair value model does not recognize depreciation. In contrast, this model recognizes an unrealized gain of \$25,000 to record

the appreciation in the condo's value during the year. In addition, the fair value model also recognizes an unrealized gain of \$2,000, which is related to the decrease in the market value of the bonds. Therefore, income under the fair value accounting model for Year 1 is \$36,000. Shareholders' equity at the end of Year 1 is equal to opening shareholders' equity plus income.

To understand how fair value accounting evolves over time, we also examine Year 2. Income, in year 2, under the historical cost model is \$9,000; the increase of \$500 over Year 1 reflects the increase in rental income. The fair value model, however, reports a loss of \$8,000, arising because of unrealized losses on account of the \$15,000 decline in the condo's market value and increase of \$2,500 in the market value of bonds. The balance sheet under the historical cost model reports the condo at its depreciated value (\$99,000) and the bonds at their par value (\$50,000). The fair value model, in contrast, reports both the condo (\$110,000) and the bonds (\$50,500) at their current market values.

Contrasting Historical Cost and Fair Value Models

Our example shows how the balance sheet and income statements evolve over time under the historical cost and the fair value models. We see that there are considerable differences in the financial statements prepared under these models. What causes these differences? What is the underlying logic behind these two models of accounting? We list here some of the fundamental differences between the two models with the objective of answering these questions:

- **Transaction versus current valuation.** Under historical cost accounting, asset and liability values are largely determined by a business entity's actual transactions in the past; the valuation need not reflect current economic circumstances. In contrast, under the fair value model, asset or liability amounts are determined by the most current value using market assumptions; the valuation need not be based on an actual transaction. In our example, the condo is valued at the original \$100,000—adjusted for wear and tear through depreciation—in the historical cost model because that is the original transacted price of the condo. In contrast, the fair value model updates the condo's value every period to reflect its current value, even though there has been no explicit transaction, i.e., sale or purchase of the condo.
- **Cost versus market based.** Historical cost valuation is primarily determined by the costs incurred by the business, while under the fair value model it is based on market valuation (or market-based assumptions). For example, finished goods inventory under the historical cost model will primarily reflect the cost of producing the goods, while under the fair value model it will reflect its net selling price, that is, the value that the market is willing to pay for the goods.
- **Alternative income approaches.** Under the historical cost model, income is determined by matching costs to recognized revenues, which have to be realized and earned. Under the fair value model, income is determined merely by the net change in fair value of assets and liabilities. The manner in which income is determined under the two models for Year 1 of our example is illustrated here:

Historical Cost Model

Revenue (rental income)	\$12,000
Less matched costs:	
Depreciation	500
Interest expense	3,000
Income	<u>\$ 8,500</u>

Fair Value Model

Change in net asset value:	
Increase in cash	\$ 9,000
Increase in condo value	25,000
Decrease in debt value	2,000
Income	<u>\$36,000</u>

The alternative approaches for income determination under the two models are extremely important for analysis. Income under historical cost accounting is a distinct construct that attempts to measure the current period's profitability, that is, ability of a business to generate revenues in excess of costs. In our example, we recognized revenue of \$12,000 to which we matched the following costs: depreciation \$500 (which is Year 1's share of the long-term cost of using the condo) and interest \$3,000 (which is Year 1's share of the cost of financing the condo). Under this approach, asset (or liability) balances are often determined by how income is measured; for example, the depreciated value of the condo on the balance sheet is determined by the depreciation expense charged against income. In contrast, income under the fair value model is not separate from the valuation of the business's assets and liabilities; it is merely a measure of the net change in the value of assets and liabilities. For example as shown above, Year 1's fair value income of \$36,000 is determined by a \$9,000 increase in cash, a \$25,000 increase in the condo's fair value and a \$2,000 decrease in the fair value of debt. Therefore, one could argue that the income statement is superfluous under the fair value accounting model.

It is important to conceptually understand what income under the two models represents. Under the fair value model, accounting income approximates *economic income* (see earlier section for definition of economic income). Income under the historical cost model seeks to measure the *current profitability* of the business. While it may appear to approximate *permanent income* in our example, that is not necessarily the case.

Considerations in Measuring Fair Value

Defining Fair Value

Before providing the formal definition of *fair value*, let us try to understand the intuitive meaning of this term. Broadly, fair value means *market value*. The terminology of "fair value" was coined (instead of merely using "market value") because even if a primary market does not exist for an asset or liability from which market prices could be readily determined, one could still estimate its "fair value" by reference to secondary markets or through the use of valuation techniques. The idea behind fair value, however, is to get as close to market value as possible. Therefore, conceptually, fair value is no different from market value because it reflects current market participant (e.g., investor) assumptions about the present value of expected future cash inflows or outflows arising from an asset or a liability.

Formally, SFAS 157 defines fair value as *exchange price*, that is, the price that would be received from selling an asset (or paid to transfer a liability) in an orderly transaction between market participants on the measurement date. There are five aspects of this definition that needs to be noted:

- **On the measurement date.** The asset or liability's fair value is determined as of the *measurement date*—that is, the date of the balance sheet—rather than the date when the asset was originally purchased (or the liability originally assumed).
- **Hypothetical transaction.** The transaction that forms the basis of valuation is hypothetical. No actual sale of the asset (or transfer of liability) needs to occur. In other words, fair values are determined "as if" the asset were sold on the measurement date.
- **Orderly transaction.** The notion of an "orderly" transaction eliminates exchanges occurring under unusual circumstances, such as under duress. This

ensures that the fair value represents the exchange price under normal circumstances, such as the market price in an active (i.e., frequently traded) market.

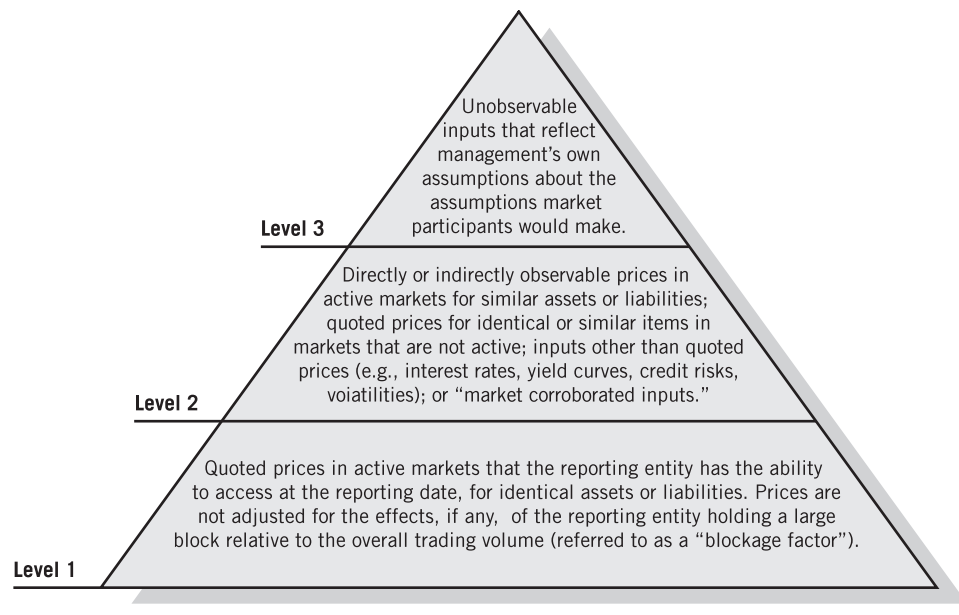
- **Market-based measurement.** Fair values are *market-based* measurements, not *entity-specific* measurements. What does this mean? This means that fair value of an asset should reflect the price that market participants would pay for the asset (or demand for the liability), rather than the value generated through unique use of the asset in a specific business. To illustrate, consider a highly lucrative cab company that owns a single automobile. Because of excellent business prospects, the present value of future net receipts from the use of this automobile over its estimated life is expected to be \$65,000. However, the market value of the automobile (based on its blue-book price) is just \$15,000. The fair value of the automobile is \$15,000 (i.e., its market-based exchange price) and not \$65,000 (i.e., its entity-specific unique value).
- **Exit prices.** The fair value of an asset is the hypothetical price at which a business can *sell* the asset (exit price). It is not the price that needs to be paid to *buy* the asset (entry price). Similarly, for a liability, fair value is the price at which a business can transfer the liability to a third party, not the price it will get to assume the liability.

Hierarchy of Inputs

Note that fair value can be estimated for assets (or liabilities) even when active primary markets do not exist from which prices can be directly ascertained. Obviously fair value estimates that are not derived from direct market prices are less reliable. Realizing this, standard setters have established a hierarchy of fair value inputs (i.e., assumptions that form the basis for deriving fair value estimates). At the outset, two types of inputs are recognized: (1) *observable inputs*, where market prices are obtainable from sources independent of the reporting company—for example, from quoted market prices of traded securities, and (2) *unobservable inputs*, where fair values are determined through assumptions provided by the reporting company because the asset or liability is not traded. Observable inputs are further classified based on whether the prices are from primary or secondary markets. This gives rise to the following three-step hierarchy of inputs (see Exhibit 2.9):

- **Level 1 inputs.** These inputs are quoted prices in active markets for the exact asset or liability that is being valued, preferably available on the measurement date. These are the most reliable inputs and should be used in determining fair value whenever they are available.
- **Level 2 inputs.** These inputs are either (1) quoted prices from active markets for similar, but not identical, assets or liabilities or (2) quoted prices for identical assets or liabilities from markets that are not active (i.e., not frequently traded). Therefore, while these inputs are indeed market prices, the prices may be for assets (or liabilities) that are not identical to those being valued or the quotes may not be for current prices because of infrequent trading.
- **Level 3 inputs.** These are unobservable inputs and are used when the asset or liability is not traded or when traded substitutes cannot be identified. Level 3 inputs reflect manager's own assumptions regarding valuation, including internal data from within the company.

The hierarchy of inputs is extremely important. As the pyramid in Exhibit 2.9 suggests, Level 1 inputs must be most commonly used and Level 3 inputs must be used sparingly. Also, *SEAS 157* prescribes footnote disclosures where information about the level of inputs used for determining fair values must be reported. An analyst can use this information to evaluate the reliability of the fair value amounts recognized. Finally, it must be

Exhibit 2.9**Hierarchy of Fair Value Inputs**

appreciated that while Level 1 and Level 2 inputs will be available for valuing financial assets and liabilities, most operating assets and liabilities may need to use Level 3 inputs.

Valuation Techniques

The appropriate valuation technique depends on the availability of input data. Once a technique is chosen, it must be used consistently, unless there is some change in circumstances that allows a more accurate determination of fair value. Three basic approaches to valuation are specified:

- **Market approach.** As the name implies, this approach directly or indirectly uses prices from actual market transactions. Sometimes, market prices may need to be transformed in some manner in determining fair value. This approach is applicable to most of the Level 1 or Level 2 inputs.
- **Income approach.** Under this approach fair values are measured by discounting future cash flow (or earnings) expectations to the current period. Current market expectations need to be used to the extent possible in determining these discounted values. Examples of such an approach include valuing intangible assets based on expected future cash flow potential or using option pricing techniques (such as the Black-Scholes model) for valuing employee stock options.
- **Cost approach.** Cost approaches are used for determining the current replacement cost of an asset, that is, determining the cost of replacing an asset's remaining service capacity. Under this approach, fair value is determined as the current cost to a market participant (i.e., buyer) to acquire or construct a substitute asset that generates comparable utility after adjusting for technological improvements, natural wear and tear and economic obsolescence.

When determining discounted values (i.e., present values), it may be necessary to make adjustments for risk. In the case of a liability, the risk adjustment will need to consider the reporting entity's own credit risk. This will give rise to a peculiar situation, where deterioration in the creditworthiness of a company can result in a decrease in its liabilities.

Analysis Implications

The adoption of fair value accounting has significant implications for financial statement analysis. In this section, we discuss the advantages and disadvantages of fair value accounting and issues that an analyst must consider when analyzing financial statements prepared under fair value accounting. Finally, we discuss the current status of fair value accounting and future initiatives of the FASB in this direction.

Advantages and Disadvantages of Fair Value Accounting

The move toward fair value accounting has engendered intense debate. Both supporters and detractors of fair value accounting have been equally vocal in airing their views.

The major advantages of fair value accounting are as follows:

- **Reflects current information.** There is no denying that fair value accounting reflects current information regarding the value of assets and liabilities on the balance sheet. In contrast, historical cost information can be outdated, giving rise to what may be termed “hidden” assets or liabilities. For example, the assets of many manufacturing companies are seriously understated because the current market value of their real estate holdings is not reflected on the balance sheet. This is obviously the most important advantage of fair value accounting over the historical cost model. By reflecting more current information, fair value accounting is argued to be more relevant for decision making.
- **Consistent measurement criteria.** Another advantage that the standard setters stress is that fair value accounting provides the only conceptually consistent measurement criteria for assets and liabilities. At present, financial accounting follows a mish-mash of approaches that is termed the *mixed attribute model*. For example, fixed assets such as land and building are measured using historical cost, but financial assets such as marketable securities are recorded at current market prices. Even for the same item, inconsistent criteria are used because of conservatism; for example, inventory is usually valued at cost unless market value drops below cost, in which case it gets measured at market value. Under fair value accounting, it is hoped that all assets and liabilities will be measured using a consistent and conceptually appealing criterion.
- **Comparability.** Because of consistency in the manner in which assets and liabilities are measured, it is argued that fair value accounting will improve *comparability*, that is, the ability to compare financial statements of different firms.
- **No conservative bias.** Fair value accounting is expected to eliminate the conservative bias that currently exists in accounting. Eliminating conservatism is expected to improve reliability because of *neutrality*, that is, reporting information without any bias.
- **More useful for equity analysis.** One complaint of traditional accounting is that it is largely oriented to provide information useful for credit analysis. For example, the use of conservative historical costs is more designed to provide an estimate of a business's downside risk than evaluate its upside potential. Many argue that adopting the fair value model will make accounting more useful for equity analysis.

The major disadvantages of fair value accounting include the following:

- **Lower objectivity.** The major criticism against fair value accounting is that it is less reliable because it often lacks objectivity. This issue is crucially linked to the type of inputs that are used. While nobody can question the objectivity of Level 1 inputs, the same cannot be said about Level 3 inputs. Because Level 3 inputs are unobservable and based on assumptions made by managers, many fear that the extensive use of Level 3 inputs—especially for operating assets and liabilities—will lower the reliability of financial statement information.
- **Susceptibility to manipulation.** Closely linked to lower objectivity is the concern that fair value accounting would considerably increase the ability of managers to manipulate financial statements. Again, this issue is closely linked to the use of Level 3 inputs—it is more difficult to manipulate fair values when Level 1 or Level 2 inputs are used.
- **Use of Level 3 inputs.** Because Level 3 inputs are less objective, a crucial issue that will determine the reliability of fair value accounting is the extent to which Level 3 inputs will need to be used. The recent credit crisis in the United States has shown that even for financial assets or liabilities, many companies have had to resort to extensively using Level 3 inputs because of poor liquidity in the credit markets. The need to use Level 3 inputs is obviously expected to be greater for operating assets and liabilities. If Level 3 inputs are widely used, then many believe that the fair value accounting model will reduce the reliability of the financial statements.
- **Lack of conservatism.** There are many academics and practitioners who prefer conservative accounting. The two main advantages of conservatism are that (1) it naturally offsets the optimistic bias on the part of management to report higher income or higher net assets, and (2) it is important for credit analysis and debt contracting because creditors prefer financial statements that highlight downside risk. These supporters of conservative accounting are alarmed that adopting the fair value model—which purports to be unbiased—will cause financial statements to be prepared aggressively, therefore reducing its usefulness to creditors, who are one of the most important set of users of financial information.
- **Excessive income volatility.** One of the most serious concerns from adopting the fair value model is that of excessive income volatility. As we noted earlier, under the fair value accounting model income is simply the net change in value of assets and liabilities. Because assets (or liabilities) are typically large in relation to income and because fair values can change significantly across time, changes in fair values of assets can cause reported income to become excessively volatile. Much of this volatility is attributable to swings in the fair value of assets and liabilities rather than changes in the underlying profitability of the business's operations, so it is feared that income will become less useful for analysis. Standard setters are aware of this problem and have embarked on a project for changing financial statement presentation, which will consider also reporting intermediate income measures that reflect the firms operations.

Implications for Analysis

Because of the profound effect that fair value accounting will have on the financial statements, it will influence the manner in which financial statement analysis is conducted. We note some of the important issues that will need consideration when analyzing

financial statements prepared under the fair value model:

- **Focus on the balance sheet.** Currently, the income statement is arguably the most important statement for analysis. In particular, equity analysts tend to pay scant attention to the balance sheet. Part of the reason for ignoring the balance sheet is that it is not particularly informative under the historical cost model. This will change with the advent of fair value accounting. The balance sheet will become an important—if not the most important—statement for analysis. In contrast, the income statement will lose some of its importance because bottom-line income will merely measure net changes in assets and liabilities. Accordingly, the focus of financial statement analysis will need to shift toward the balance sheet.
- **Restating income.** Analyzing and restating income will become an even more crucial task for the analyst. The *bottom-line income* under the fair value accounting model merely measures the net change in the fair values of assets and liabilities. This income measure is conceptually closer to economic income and is therefore less useful for analyzing current period's profitability or forecasting future earnings. An analyst needs to carefully analyze income to separate the effect of current operations from unrealized gains and losses arising from changes in fair values of assets and liabilities.
- **Analyzing use of inputs.** As noted earlier, Level 3 inputs are less reliable and more susceptible to manipulation. Therefore, a major task in financial statement analysis—when using fair value accounting information—is analyzing the levels of inputs that have been used in determining asset and liability values. In particular, it is important to identify and quantify the extent to which Level 3 inputs have been used in determining fair values. The widespread use of Level 3 inputs is an important indicator of the quality—or lack thereof—of the financial statements. Fortunately, companies are required to provide detailed footnote disclosure regarding the assumptions underlying their fair value estimates, including the type of inputs used. This information will be crucial for evaluating the quality of the financial statement information.
- **Analyzing financial liabilities.** Fair values of debt securities decline with a decrease in the creditworthiness of the borrower. This creates a counterintuitive situation with respect to the valuation of a business's financial liabilities (e.g., debt obligations). A decrease in the business's creditworthiness will result in a decrease in the fair value of the debt obligation. The decrease in fair value of the debt obligation will result in recognizing an unrealized gain, which will artificially inflate income during the period. The rationale for this accounting treatment is that when the entire balance sheet is prepared on a fair value basis, a reduction in fair value of debt is unlikely to occur without a corresponding (and probably greater) decrease in the fair value of assets. Therefore, when taken together there is unlikely to be an artificial increase in equity.

While the explanation is logical, there is still an issue with how this accounting treatment will affect the debt equity ratio. When determining the debt equity ratio, we recommend that the *face value* of the outstanding debt should be used, rather than its fair value. This will provide a better indication of the ability of a business to meet its *fixed commitments*.

Current Status of Fair Value Adoption

In this section, we discussed conceptual issues relating to fair value accounting. Our discussions were couched under the assumption that fair value accounting was adopted for all assets and liabilities on the financial statements. While such a scenario could

become reality in the future, it is important to note that fair value accounting is currently not applicable to all assets and liabilities.

At present, fair value accounting is applicable primarily to assets and liabilities that can be broadly termed as financial in nature. These include marketable securities, investments, financial instruments, and debt obligations. *SEAS 157* does not specify any new assets or liabilities that must use the fair value model. However, more recently *SEAS 159*, allows companies to *voluntarily* adopt fair value accounting for individual financial assets and obligations. We discuss these issues in more detail in Chapter 5.

In addition to financial assets and liabilities, recently assets and liabilities relating to pensions and other postretirement benefits are required to be valued on a fair value basis on the balance sheet (*SEAS 158*). However, unrealized gains and losses arising from changes in these assets and liabilities are not recognized in net income. We discuss *SEAS 158* in detail in Chapter 3.

The FASB (and the IASB) are currently involved in examining how a more comprehensive adoption of the fair value accounting model can be undertaken, which includes using the fair value model for operating assets and liabilities. Concurrently, the FASB is considering a project that radically changes the presentation of the financial statements. These changes will have important implications for financial statement analysis.

.....INTRODUCTION TO ACCOUNTING ANALYSIS

Accounting analysis is the process of evaluating the extent to which a company's accounting numbers reflect economic reality. Accounting analysis involves a number of different tasks, such as evaluating a company's accounting risk and earnings quality, estimating earning power, and making necessary adjustments to financial statements to both better reflect economic reality and assist in financial analysis.

Accounting analysis is an important precondition for effective financial analysis. This is because the quality of financial analysis, and the inferences drawn, depends on the quality of the underlying accounting information, the raw material for analysis. While accrual accounting provides insights about a company's financial performance and condition that is unavailable from cash accounting, its imperfections can distort the economic content of financial reports. Accounting analysis is the process an analyst uses to identify and assess accounting distortions in a company's financial statements. It also includes the necessary adjustments to financial statements that reduce distortions and make the statements amenable to financial analysis.

In this section, we explain the need for accounting analysis, including identifying the sources of accounting distortions. Then we discuss earnings management, its motivations and strategies, and its implications for analysis. We conclude by examining accounting analysis methods and processes.

Need for Accounting Analysis

The need for accounting analysis arises for two reasons. First, accrual accounting improves upon cash accounting by reflecting business activities in a more timely manner. But accrual accounting yields some accounting distortions that need to be identified and adjusted so accounting information better reflects business activities. Second, financial statements are prepared for a diverse set of users and information needs. This means accounting information usually requires adjustments to meet the analysis

objectives of a particular user. We examine each of these factors and their implications to financial statement analysis in this section.

Accounting Distortions

Accounting distortions are deviations of reported information in financial statements from the underlying business reality. These distortions arise from the nature of accrual accounting—this includes its standards, errors in estimation, the trade-off between relevance and reliability, and the latitude in application. We separately discuss each of these sources of distortion.

Accounting Standards. Accounting standards are sometimes responsible for distortions. At least three sources of this distortion are identifiable. First, accounting standards are the output of a political process. Different user groups lobby to protect their interests. In this process, standards sometimes fail to require the most relevant information. One example is accounting for employee stock options (ESOs).

A second source of distortion from accounting standards arises from certain accounting principles. For example, the historical cost principle can reduce the relevance of the balance sheet by not reflecting current market values of assets and liabilities. Also, the transaction basis of accounting results in inconsistent goodwill accounting wherein purchased goodwill is recorded as an asset but internally developed goodwill is not. Additionally, double entry implies that the balance sheet articulates with the income statement—meaning that many transactions affect both statements. However, an accounting rule that improves one statement often does so to the detriment of the other. For example, FIFO inventory rules ensure the inventory account in the balance sheet reflects current costs of unsold inventory. Yet, LIFO inventory rules better reflect current costs of sales in the income statement.

A third source of distortion is conservatism. For example, accountants often write down or write off the value of impaired assets, but very rarely will they write up asset values. Conservatism leads to a pessimistic bias in financial statements that is sometimes desirable for credit analysis but problematic for equity analysis.

Estimation Errors. Accrual accounting requires forecasts and other estimates about future cash flow consequences. Use of these estimates improves the ability of accounting numbers to reflect business transactions in a timely manner. Still, these estimates yield errors that can distort the relevance of accrual accounting numbers. To illustrate, consider credit sales. Whenever goods or services are sold on credit, there is a possibility the customer will default on payment. There are two approaches to confront this uncertainty. One approach is to adopt cash accounting that records revenue only when cash is eventually collected from the customer. The other approach, followed by accrual accounting, is to record credit sales as revenue when they are earned and then make an allowance for bad debts based on collection history, customers' credit ratings, and other facts. While accrual accounting is more relevant, it is subject to distortions from errors in estimation of bad debts.

Reliability versus Relevance. Accounting standards trade off reliability and relevance. An emphasis on reliability often precludes recognizing the effects of certain business events and transactions in financial statements until their cash flow consequences can be reasonably estimated. One example is loss contingencies. Before a loss contingency is recorded as a loss, it must be reasonably estimable. Because of this criterion, many loss contingencies are not reported in financial statements even several years after their existence is established beyond reasonable doubt. Another example of distortion due to the reliability emphasis is accounting for research and development costs. While R&D is an

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SUNBEAM ME UP

Sunbeam's former CEO Albert "Chainsaw Al" Dunlap and former CFO Russell Kersh received lifetime bans from serving as officers or directors of any public companies. Dunlap and Kersh are alleged to have used accounting hocus-pocus to hide the true financial state of Sunbeam from investors.

investment, current accounting standards require writing it off as an expense because payoffs from R&D are less certain than payoffs from investments in, say, plant and equipment.

Earnings Management. Earnings management is probably the most troubling outcome of accrual accounting. Use of judgment and estimation in accrual accounting allows managers to draw on their inside information and experience to enhance the usefulness of accounting numbers. However, some managers exercise this discretion to manage accounting numbers, particularly income, for personal gain, thereby reducing their quality. Earnings management occurs for several reasons, such as to increase compensation, avoid debt covenants, meet analyst forecasts, and impact stock prices. Earnings management can take two forms: (1) changing accounting methods, which is a visible form of earnings management, and (2) changing accounting estimates and policies that determine accounting numbers, which is a hidden form of earnings management. Earnings management is a reality that most users reluctantly accept as part of accrual accounting. While it is important we recognize that earnings management is not as widespread as the financial press leads us to believe, there is no doubt it hurts the credibility of accounting information. The next section includes an in-depth discussion of earnings management.

Earnings Management

Earnings management can be defined as the "purposeful intervention by management in the earnings determination process, usually to satisfy selfish objectives" (Schipper, 1989). It often involves window-dressing financial statements, especially the bottom line earnings number. Earnings management can be *cosmetic*, where managers manipulate accruals without any cash flow consequences. It also can be *real*, where managers take actions with cash flow consequences for purposes of managing earnings.

Cosmetic earnings management is a potential outcome of the latitude in applying accrual accounting. Accounting standards and monitoring mechanisms reduce this latitude. Yet, it is impossible to eliminate this latitude given the complexity and variation in business activities. Moreover, accrual accounting requires estimates and judgments. This yields some managerial discretion in determining accounting numbers. While this discretion provides an opportunity for managers to reveal a more informative picture of a company's business activities, it also allows them to window-dress financial statements and manage earnings.

Managers also take actions with cash flow consequences, often adverse, for purposes of managing earnings. For example, managers sometimes use the FIFO method of inventory valuation to report higher income even when use of the LIFO method could yield tax savings. Earnings management incentives also influence investing and financing decisions of managers. Such real earnings management is more troubling than cosmetic earnings management because it reflects business decisions that often reduce shareholder wealth.

This section focuses on cosmetic earnings management because accounting analysis can overcome many of the distortions it causes. Distortions from real earnings management usually cannot be overcome by accounting analysis alone.

Earnings Management Strategies

There are three typical strategies to earnings management. (1) Managers increase current period income. (2) Managers take a big bath by markedly reducing current period income. (3) Managers reduce earnings volatility by income smoothing. Managers sometimes apply these strategies in combination or singly at different points in time to achieve long-term earnings management objectives.

Increasing Income. One earnings management strategy is to increase a period's reported income to portray a company more favorably. It is possible to increase income in this manner over several periods. In a growth scenario, the accrual reversals are smaller than current accruals that increase income. This leads to a case where a company can report higher income from aggressive earnings management over long periods of time. Also, companies can manage earnings upward for several years and then reverse accruals all at once with a one-time charge. This one-time charge is often reported "below the line" (i.e., below the income from continuing operations line in the income statement) and, therefore, might be perceived as less relevant.

Big Bath. A "big bath strategy" involves taking as many write-offs as possible in one period. The period chosen is usually one with markedly poor performance (often in a recession when most other companies also report poor earnings) or one with unusual events such as a management change, a merger, or a restructuring. The big bath strategy also is often used in conjunction with an income-increasing strategy for other years. Because of the unusual and nonrecurring nature of a big bath, users tend to discount its financial effect. This affords an opportunity to write off all past sins and also clears the deck for future earnings increases.

Income Smoothing. Income smoothing is a common form of earnings management. Under this strategy, managers decrease or increase reported income so as to reduce its volatility. Income smoothing involves not reporting a portion of earnings in good years through creating reserves or earnings "banks," and then reporting these earnings in bad years. Many companies use this form of earnings management.

Motivations for Earnings Management

There are several reasons for managing earnings, including increasing manager compensation tied to reported earnings, increasing stock price, and lobbying for government subsidies. We identify the major incentives for earnings management in this section.

Contracting Incentives. Many contracts use accounting numbers. For example, managerial compensation contracts often include bonuses based on earnings. Typical bonus contracts have a lower and an upper bound, meaning that managers are not given a bonus if earnings fall below the lower bound and cannot earn any additional bonus when earnings exceed the upper bound. This means managers have incentives to increase or decrease earnings based on the *unmanaged* earnings level in relation to the upper and lower bounds. When unmanaged earnings are within the upper and lower bounds, managers have an incentive to increase earnings. When earnings are above the maximum bound or below the minimum bound, managers have an incentive to decrease earnings and create reserves for future bonuses. Another example of a contractual incentive is debt covenants that often are based on ratios using accounting numbers such as earnings. Since violations of debt covenants are costly for managers, they will manage earnings (usually upward) to avoid them.

Stock Price Effects. Another incentive for earnings management is the potential impact on stock price. For example, managers may increase earnings to temporarily boost company stock price for events such as a forthcoming merger or security offering, or plans to sell stock or exercise options. Managers also smooth income to lower market perceptions of risk and to decrease the cost of capital. Still another



BATH BUSTER

SEC is increasingly concerned about big-bath write-offs such as Motorola's \$1.98 billion restructuring charge.



NUMBER CRUNCH

Bausch & Lomb execs say that maintaining double-digit sales and earnings growth in the 90s was all-important, creating pressures that led to unethical behavior in reporting earnings.

related incentive for earnings management is to beat market expectations. This strategy often takes the following form: managers lower market expectations through pessimistic voluntary disclosures (preannouncements) and then manage earnings upward to beat market expectations. The growing importance of momentum investors and their ability to brutally punish stocks that don't meet expectations has created increasing pressure on managers to use all available means to beat market expectations.

Other Incentives. There are several other reasons for managing earnings. Earnings sometimes are managed downward to reduce political costs and scrutiny from government agencies such as antitrust regulators and the IRS. In addition, companies may manage earnings downward to gain favors from the government, including subsidies and protection from foreign competition. Companies also decrease earnings to combat labor union demands. Another common incentive for earnings management is a change in management. This usually results in a big bath for several reasons. First, it can be blamed on incumbent managers. Second, it signals that the new managers will make tough decisions to improve the company. Third, and probably most important, it clears the deck for future earnings increases. One of the largest big baths occurred when Louis Gerstner became CEO at IBM. Gerstner wrote off nearly \$4 billion in the year he took charge. While a large part of this charge comprised expenses related to the turnaround, it also included many items that were future business expenses. Analysts estimate that the earnings increases reported by IBM in subsequent years were in large part attributed to this big bath.

Mechanics of Earnings Management

This section explains the mechanics of earnings management. Areas that offer maximum opportunities for earnings management include revenue recognition, inventory valuation, estimates of provisions such as bad debts expense and deferred taxes, and one-time charges such as restructuring and asset impairments. This section does not provide examples of every conceivable method of managing earnings. Many additional details and examples of earnings management are discussed in Chapters 3–6. In this section, we describe two major methods of earnings management—income shifting and classificatory earnings management.

■■■■■■■■ **NIFTY SHIFTY**

WorldCom execs boosted earnings by shifting (capitalizing) costs that should have been expensed to future periods.

Income Shifting. Income shifting is the process of managing earnings by moving income from one period to another. Income shifting is achieved by accelerating or delaying the recognition of revenues or expenses. This form of earnings management usually results in a reversal of the effect in one or more future periods, often in the next period. For this reason, income shifting is most useful for income smoothing. Examples of income shifting include the following:

- Accelerating revenue recognition by persuading dealers or wholesalers to purchase excess products near the end of the fiscal year. This practice, called *channel loading*, is common in industries such as automobile manufacturing and cigarettes.
- Delaying expense recognition by capitalizing expenses and amortizing them over future periods. Examples include interest capitalization and capitalization of software development costs.

- Shifting expenses to later periods by adopting certain accounting methods. For example, adopting the FIFO method for inventory valuation (versus LIFO) and the straight-line depreciation (versus accelerated) can delay expense recognition.
- Taking large one-time charges such as asset impairments and restructuring charges on an intermittent basis. This allows companies to accelerate expense recognition and, thus, make subsequent earnings look better.

Classificatory Earnings Management. Earnings are also managed by selectively classifying expenses (and revenues) in certain parts of the income statement. The most common form of this classificatory earnings management is to move expenses below the line, meaning report them along with unusual and nonrecurring items that usually are given less importance by analysts. Managers attempt to classify expenses in the nonrecurring parts of the income statement as these examples illustrate:

- When a company discontinues a business segment, the income from that segment must be separately reported as income (loss) from discontinued operations. This item is properly ignored in analysis because it pertains to a business unit that no longer impacts the company. But some companies load a larger portion of common costs (such as corporate overhead) to the discontinued segment, thereby increasing income for the rest of the company.
- Use of special charges such as asset impairments and restructuring charges has skyrocketed (almost 40% of companies report at least one such charge). The motivation for this practice arises from the habit of many analysts to ignore special charges because of their unusual and nonrecurring nature. By taking special charges periodically and including operating expenses in these charges, companies cause analysts to ignore a portion of operating expenses.



KODAK MOMENT

In the '90s, Kodak took six extraordinary write-offs totaling \$4.5 billion, which is more than its net earnings for that decade.

Analysis Implications of Earnings Management

Because earnings management distorts financial statements, identifying and making adjustments for it is an important task in financial statement analysis. Still, despite the alarming increase in earnings management, it is less widespread than presumed. The financial press likes to focus on cases of earnings management because it makes interesting reading. This gives many users the incorrect impression that earnings are managed all the time.

Before concluding a company is managing earnings, an analyst needs to check the following:

- **Incentives for earnings management.** Earnings will not be managed unless there are incentives for managing them. We have discussed some of the incentives, and an analysis should consider them.
- **Management reputation and history.** It is important to assess management reputation and integrity. Perusal of past financial statements, SEC enforcements, audit reports, auditor change history, and the financial press provides useful information for this task.
- **Consistent pattern.** The aim of earnings management is to influence a summary bottom line number such as earnings or key ratios such as the debt-to-equity or interest coverage. It is important to verify whether different components of income (or the balance sheet) are consistently managed in a certain direction. For example, if a company appears to be inflating earnings through, say, revenue recognition policies while simultaneously decreasing earnings through an inventory method change, it is less likely the company is managing earnings.

- **Earnings management opportunities.** The nature of business activities determines the extent to which earnings can be managed. When the nature of business activities calls for considerable judgment in determining financial statement numbers, greater opportunities exist to manage earnings.

Process of Accounting Analysis

Accounting analysis involves several interrelated processes and tasks. We discuss accounting analysis under two broad areas—evaluating earnings quality and adjusting financial statements. Although separately discussed, the two tasks are interrelated and complementary. We also discuss earnings quality in more detail in Appendix 2B and adjustments to financial statements throughout Chapters 3–6.

Evaluating Earnings Quality

Earnings quality (or more precisely, accounting quality) means different things to different people. Many analysts define earnings quality as the extent of conservatism adopted by the company—a company with higher earnings quality is expected to have a higher price-to-earnings ratio than one with lower earnings quality. An alternative definition of earnings quality is in terms of accounting distortions—a company has high earnings quality if its financial statement information accurately depicts its business activities. Whatever its definition, evaluating earnings quality is an important task of accounting analysis. We briefly describe the steps in evaluating earnings quality in this section.

Steps in Evaluating Earnings Quality. Evaluating earnings quality involves the following steps:

- **Identify and assess key accounting policies.** An important step in evaluating earnings quality is identifying key accounting policies adopted by the company. Are the policies reasonable or aggressive? Is the set of policies adopted consistent with industry norms? What impact will the accounting policies have on reported numbers in financial statements?
- **Evaluate extent of accounting flexibility.** It is important to evaluate the extent of flexibility available in preparing financial statements. The extent of accounting flexibility is greater in some industries than others. For example, the accounting for industries that have more intangible assets, greater volatility in business operations, a larger portion of its production costs incurred prior to production, and unusual revenue recognition methods requires more judgments and estimates. Generally, earnings quality is lower in such industries than in industries where the accounting is more straightforward.
- **Determine the reporting strategy.** Identify the accounting strategy adopted by the company. Is the company adopting aggressive reporting practices? Does the company have a clean audit report? Has there been a history of accounting problems? Does management have a reputation for integrity, or are they known to cut corners? It is also necessary to examine incentives for earnings management and look for consistent patterns indicative of it. Analysts need to evaluate the quality of a company's disclosures. While disclosures are not substitutes for good quality financial statements, forthcoming and detailed disclosures can mitigate weaknesses in financial statements.
- **Identify and assess red flags.** One useful step in evaluating earnings quality is to beware of red flags. Red flags are items that alert analysts to potentially more

serious problems. Some examples of red flags are:

- Poor financial performance—desperate companies are prone to desperate means.
- Reported earnings consistently higher than operating cash flows.
- Reported pretax earnings consistently higher than taxable income.
- Qualified audit report.
- Auditor resignation or a nonroutine auditor change.
- Unexplained or frequent changes in accounting policies.
- Sudden increase in inventories in comparison to sales.
- Use of mechanisms to circumvent accounting rules, such as operating leases and receivables securitization.
- Frequent one-time charges and big baths.

ANALYSIS VIEWPOINT

... YOU ARE THE BOARD MEMBER

You are a new member of the board of directors of a merchandiser. You are preparing for your first meeting with the company's independent auditor. A stockholder writes you a letter raising concerns about earnings quality. What are some questions or issues that you can raise with the auditor to address these concerns and fulfill your fiduciary responsibilities to shareholders?

Adjusting Financial Statements

The final and most involved task in accounting analysis is making appropriate adjustments to financial statements, especially the income statement and balance sheet. As discussed earlier, the need for these adjustments arises both because of distortions in the reported numbers and because of specific analysis objectives. The main emphasis of the next four chapters of this book is the proper identification and adjustment of accounting numbers. Some common adjustments to financial statements include:

- Capitalization of long-term operating leases, with adjustments to both the balance sheet and income statement.
- Recognition of ESO expense for income determination.
- Adjustments for one-time charges such as asset impairments and restructuring costs.
- Recognition of the economic (funded) status of pension and other postretirement benefit plans on the balance sheet.
- Removal of the effects of selected deferred income tax liabilities and assets from the balance sheet.

.....APPENDIX 2A: AUDITING AND FINANCIAL STATEMENT ANALYSIS

Financial statements of a company are the representations of its management, who bear the primary responsibility for the fairness of presentation and the information disclosed. Because of the importance of financial statements, there is demand for their independent verification. Public accounting meets this demand through attestation, or auditing, services. This appendix provides an overview of the relevance of auditing for our analysis. It also discusses the types of audit reports and their analysis implications.

AUDIT PROCESS

Analysts must understand what the audit opinion implies for users of financial statements and must also appreciate the limitations of the opinion and their implications for analysis of financial statements. To obtain this understanding, we must consider the standards governing auditors' behavior and the nature of audit work.

Generally Accepted Auditing Standards

Auditors typically refer to an audit made in accordance with **generally accepted auditing standards**. Audit standards are the measuring sticks assessing the quality of audit procedures. These standards are intended to ensure the auditor's responsibilities are clearly and unequivocally stated and that the degree of responsibility assumed is made clear to users.

Auditing Procedures

The basic objective of a financial statement audit is to identify errors and irregularities, which if undetected would materially affect these statements' fairness of presentation or their conformity with GAAP. To be economically feasible and justifiable, auditing aims for a reasonable level of assurance about the data under review. This means that, under a testing system, assurance is never absolute. Audit reports are subject to this inherent probability of error.

AUDIT REPORT

There is considerable debate among auditors, users, and other interested parties (courts, regulators) concerning the phrase *present fairly* in the auditor's report. Most auditors maintain that financial statements are fairly presented when they conform to accepted accounting principles and fairness is meaningful only when measured against this standard. Yet in several court cases, financial statements supposedly prepared in accordance with accounting principles were found to be misleading.

The audit report's language has been revised to narrow the gap between the responsibility auditors intend to assume and the responsibility the public believes them to assume. The language is intended to be nontechnical and to more explicitly address the responsibility the audit firm assumes, the procedures it performs, and the assurance it provides. The report indicates:

- Financial statements are audited. This is intended to be descriptive of the process.
- Financial statements are the responsibility of management and expressing an opinion on them is the auditor's responsibility. This gives users notice of responsibilities assumed by each party.
- The audit is conducted in accordance with generally accepted auditing standards and is designed to obtain reasonable assurance the financial statements are free of material misstatement.
- Auditors apply procedures to reasonably assure the financial statements are free of material misstatement, including: (1) examining on a test basis evidence supporting the amounts and disclosures in financial statements, (2) assessing accounting principles used and estimates made by management, and (3) evaluating overall financial statement presentation.

- Whether financial statements present fairly in all material respects the financial position, results of operations, and cash flows of the company for the period reported on.

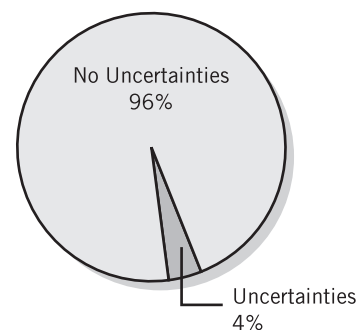
Types of Audit Qualifications

There are several major types of qualifications that an auditor can express.

“Except for” Qualification

“Except for” qualifications express an opinion on the financial statements *except for* repercussions stemming from conditions that must be disclosed. They may arise from limitations in the scope of the audit that, because of circumstances beyond the auditor’s control or because of restrictions imposed by the audited company, result in a failure to obtain reasonably objective and verifiable evidence. They can also arise from a lack of conformity of the financial statements to accepted accounting principles. When there are uncertainties about future events that cannot be resolved or whose effects cannot be estimated or reasonably provided for at the time an opinion is rendered, a separate paragraph is added. An example is a company with operating losses or in financial distress calling into question the company’s ability to continue operating as a going concern. This paragraph refers users to the note in the financial statements providing details about the uncertainty. In cases of pervasive uncertainty that cannot be adequately measured, an auditor can, but is not required to, issue a disclaimer of opinion rather than merely call the user’s attention to the uncertainty.

Companies with Uncertainties in the Audit Report



Adverse Opinion

Auditors render adverse opinions in cases where financial statements are not prepared in accordance with accepted accounting principles, and this has a material effect on the fair presentation of the statements. An adverse opinion results generally from a situation where the audit firm is unable to convince its client to either amend the financial statements so that they reflect the auditor’s estimate about the outcome of future events or adhere to accepted accounting principles. An adverse opinion must always be accompanied by the reasons for this opinion.

Disclaimer of Opinion

A disclaimer of opinion is a statement of inability to express an opinion. It must be rendered when, for whatever reason, insufficient competent evidential matter is available to the audit firm to enable it to form an opinion on the financial statements. It can arise from limitations in the scope of the audit as well as from the existence of uncertainties, the ultimate impact of which cannot be estimated. Material departures from accepted accounting principles do not justify a disclaimer of opinion. The difference between adverse opinions and disclaimers of opinion is best understood in terms of the difference existing between exceptions affecting the quality of financial statements on one hand, and those expressing uncertainties affecting the auditor’s opinion on the other. For example, a situation calling for an “except for” opinion can in certain cases result in major disagreements with management requiring an adverse opinion. Finally, a disclaimer of opinion is also required if the auditor is not deemed to be “independent” in its audit of the financial statements. This lack of independence can arise, for example, if the auditor has a financial interest in the company, possibly by virtue of equity investment.

ANALYSIS IMPLICATIONS FROM AUDITING

This section describes the analysis implications related to auditing activities.

Analysis Implications of the Audit Process

Auditing is based largely on a *sampling approach* to the data and information under audit. Sample size is limited by the costs of auditing practice. Users must recognize the audit firm does not aim at, nor can ever achieve, complete certainty. Even a review of every single transaction—a process economically unjustifiable—does not achieve complete assurance.

While audited financial statements provide us some assurance about the results of the audit process, we must remember there are varying risks to our relying on audit results. These risks relate to many factors, including (1) the auditor's inability and/or unwillingness to detect fraud at the highest level and to apply necessary audit tests to this end, (2) the auditor's inability to grasp the extent of a deteriorating situation, (3) the auditor's conception of the extent of responsibilities to probe and disclose, and (4) overall audit quality. We must be aware the entire audit process is a probabilistic one subject to risks. Flawless application does not yield complete assurance and cannot ensure the auditor has elicited all the facts. This is especially the case if high-level management collusion is involved. Dependence of the auditing process on human judgment also yields varying degrees of audit quality.



QB SACKED

Former Minnesota Vikings quarterback Fran Tarkenton paid a \$100,000 fine to settle charges that, as former CEO of KnowledgeWare, he helped inflate earnings with \$8 million in phony software sales.

Audit Risk and Its Implications

We already discussed accounting risk. Audit risk, while related, is of a different dimension and represents an equal danger to users of audited financial statements. While it is impossible for us to substitute our judgment for that of the auditor, we can use our understanding of the audit process and its limitations to make a better assessment of the degree of audit risk. The following are attributes pointing to potential areas of vulnerability:

- Growth industry or company with pressure to maintain a high market price or pursue acquisitions.
- Company in financial distress requiring financing.
- Company with high market visibility issuing frequent progress reports and earnings estimates.
- Management dominated by one or more strong-willed individuals.
- Signs of personal financial difficulties by members of management.
- Deterioration in operating performance or profitability.
- Management compensation or stock options dependent on reported earnings.
- Deterioration in liquidity or solvency.
- Capital structure too complex for the company's operations or size.
- Management compensation or stock options dependent on reported earnings.

Analysis Implications of Auditing Standards

In relying on audited financial statements, our analysis must be aware of limitations in the audit process. Moreover, we must understand what the auditor's opinion means and does not mean. The audit firm asserts it reviews the financial statements presented to it by management and ascertains whether they are in agreement with the records it audits. The audit

firm also determines whether accepted principles of accounting are employed in preparing the financial statements, but does not claim to represent they are the best principles.

There are several issues that should be recognized in our analysis:

1. An auditor's knowledge of business activities underlying financial statements is not as strong as the preparer's. The audit firm knows only what it can discern on the basis of a sampling process and does not know all the facts.
2. Many financial statement items are incapable of exact measurement and the auditor merely reviews these measurements for reasonableness. Unless the auditor can show otherwise (e.g., estimating asset service lives), management's determination prevails.
3. While the audit firm is often consulted in selecting accounting principles, it is the preparer that selects and applies the principles. Auditors cannot insist on using the "best" principle any more than they can insist on a degree of disclosure above the minimum acceptable.
4. There exist limitations in the auditor's ability to audit certain areas. For example, is the audit firm able to audit the value of inventory work in progress? Can it competently evaluate the adequacy of insurance reserves? Can it estimate the value of problem loans? Can it second-guess the client's estimate of the percentage of completion of a large contract? While these questions are rarely raised in public, they present important challenges to the profession.
5. The auditor's error tolerance is higher. The auditor looks to the concept of *materiality* implying that the audit firm need not concern itself with trivial or unimportant matters. What is important or significant is a matter of judgment, and the profession has yet to precisely define the concept nor set established criteria of materiality. This yields reporting latitude.

An auditor's reference to generally accepted accounting principles in its opinion should also be understood by users of financial statements. This reference means the auditor is satisfied that principles, or standards, have authoritative support and they are applied "in all material respects." Aside from understanding the concept of materiality, our analysis must understand that the definition of what constitutes *generally accepted* is often vague and subject to latitude in interpretation and application. For example, auditing standards state "when criteria for selection among alternative accounting principles have not been established to relate accounting methods to circumstances (e.g., as in case of inventory and depreciation methods), the auditor may conclude that more than one accounting principle is appropriate in the circumstances."

Similarly ambiguous are standards relating to disclosure. While minimum standards are increasingly established in professional and SEC pronouncements, accountants do not always adhere to them. The degree to which lack of disclosure impairs fair presentation of financial statements remains subject to the auditor's judgment and discretion. There are no definite standards indicating the point where lack of disclosure is material enough to impair fairness of presentation, requiring a qualified audit report.

Analysis Implications of Auditor Opinions

When an audit firm qualifies its opinion, our analysis is faced with a problem of interpretation. That is, what is the meaning and intent of the qualification? Also, what effect does qualification have for our reliance on financial statements? The usefulness of this qualification for our analysis depends on the extent supplementary information and data enable us to assess its impact. An added dimension of confusion and difficulty of

interpretation arises when the audit firm includes explanatory information in its report, merely for emphasis, without a statement of conclusions or of a qualification. We are often left wondering why the matter is emphasized and whether the auditor is attempting to express an unstated qualification or reservation.

When an audit firm is *not* satisfied with the fairness in presentation of financial statements, it issues an “except for” type of qualification, and when there are *uncertainties* that cannot be resolved, it adds explanatory language after the opinion paragraph. At some point, the size and importance of items under qualification are so large to result in an adverse opinion or disclaimer of opinion. Where is this point? At what point is a qualification no longer meaningful and an overall disclaimer of opinion necessary? Our analysis will not find any explicit guidelines in auditing standards. We must rely on the auditor’s judgment with appropriate caveats.

Analysis Implications of the SEC

The SEC has moved more aggressively to monitor auditor performance and to strengthen the auditor’s position in dealings with clients. Disciplinary proceedings against auditors were expanded with innovative remedies in consent decrees to include requirements for improvements in internal administration procedures, professional education, and reviews of a firm’s procedures by outside professionals (peer review). In moving to strengthen the auditor’s position, the SEC requires increased disclosure of the relationship between auditors and their clients, particularly in cases where changes in auditors take place. Disclosure must include details of past disagreements including those resolved to the satisfaction of the prior auditor, and note disclosure of the effects on financial statements of methods of accounting advocated by a former auditor but not followed by the client. The SEC has also moved to discourage “opinion shopping,” a practice where companies allegedly canvass audit firms to gain acceptance of accounting alternatives they desire to use before hiring auditors.

This appendix shows our analysis must carefully consider the auditor’s opinion and the supplementary information it refers to. While our analysis can place some reliance on the audit, we must maintain an independent and guarded view toward assurances conveyed in the auditor’s report.

ACCOUNTING WATCHDOG

The new Public Company Accounting Oversight Board (PCAOB, created by the Sarbanes-Oxley Act), serves as a watchdog for wayward auditors.

.....APPENDIX 2B: EARNINGS QUALITY

Earnings quality refers to the relevance of earnings in measuring company performance. Its determinants include a company’s business environment and its selection and application of accounting principles. This appendix focuses on measuring earnings quality, describing income statement and balance sheet analysis of earnings quality, and explaining how external factors impact earnings quality.

Determinants of Earnings Quality

We know earnings (income) measurement and recognition involve estimation and interpretation of business transactions and events. Our prior analysis of earnings emphasized that accounting earnings is not a unique amount but depends on the assumptions used and principles applied.

The need for estimation and interpretation in accrual accounting has led some individuals to question the reliability of *all* accrual measures. This is an extreme and unwise reaction because of the considerable wealth of relevant information communicated in accrual measures.

We know accrual accounting consists of adjusting cash flows to reflect universally accepted concepts: earned revenue and incurred expenses. What our analysis must focus on are the assumptions and principles applied, and the adjustments appropriate for our analysis objectives. We should use the information in accruals to our competitive advantage and to help us better understand current and future company performance. We must also be aware of both *accounting and audit risks* to rely on earnings. Improvements in both accounting and auditing have decreased the incidence of fraud and misinterpretation in financial statements. Nevertheless, management fraud and misrepresentation is far from eliminated, and audit failures do occur (e.g., Enron, WorldCom, and Xerox). Our analysis must always evaluate accounting and audit risk, including the character and propensities of management, in assessing earnings.

Measuring earnings quality arose out of a need to compare earnings of different companies and a desire to recognize differences in quality for valuation purposes. There is not complete agreement on what constitutes earnings quality. This section considers three factors typically identified as determinants of earnings quality and some examples of their assessment.

1. **Accounting principles.** One determinant of earnings quality is the discretion of management in *selecting accepted accounting principles*. This discretion can be aggressive (optimistic) or conservative. The quality of conservatively determined earnings is perceived to be higher because they are less likely to overstate current and future performance expectations compared with those determined in an aggressive manner. Conservatism reduces the likelihood of earnings overstatement and retrospective changes. However, excessive conservatism, while contributing temporarily to earnings quality, reduces the reliability and relevance of earnings in the longer run. Examining the accounting principles selected can provide clues to management's propensities and attitudes.
2. **Accounting application.** Another determinant of earnings quality is management's discretion in *applying* accepted accounting principles. Management has discretion over the amount of earnings through their application of accounting principles determining revenues and expenses. Discretionary expenses like advertising, marketing, repairs, maintenance, research, and development can be *timed* to manage the level of reported earnings (or loss). Earnings reflecting timing elements unrelated to operating or business conditions can detract from earnings quality. Our analysis task is to identify the implications of management's accounting application and assess its motivations.
3. **Business risk.** A third determinant of earnings quality is the relation between earnings and business risk. It includes the effect of cyclical and other business forces on earnings level, stability, sources, and variability. For example, earnings variability is generally undesirable and its increase harms earnings quality. Higher earnings quality is linked with companies more insulated from business risk. While business risk is not primarily a result of management's discretionary actions, this risk can be lowered by skillful management strategies.

INCOME STATEMENT ANALYSIS OF EARNINGS QUALITY

Important determinants of earnings quality are management's selection and application of accounting principles. This section focuses on several important discretionary accounting expenditures to help us to assess earnings quality. *Discretionary expenditures* are outlays that management can vary across periods to conserve resources and/or



FRAUD ALERT

Many financial frauds are spotted by short-sellers long before regulators and the press pick them up.

influence reported earnings. For this reason, they deserve special attention in our analysis. These expenditures are often reported in the income statement or its notes, and hence, evaluation of these items is referred to as an income statement analysis of earnings quality. Two important examples are:

1. **Advertising expense.** A major portion of advertising outlays has effects beyond the current period. This yields a weak relation between advertising outlays and short-term performance. This also implies management can in certain cases cut advertising costs with no immediate effects on sales. However, long-run sales are likely to suffer. Analysis must look at year-to-year variations in advertising expenses to assess their impact on future sales and earnings quality.
2. **Research and development expense.** Research and development costs are among the most difficult expenditures in financial statements to analyze and interpret. Yet they are important, not necessarily because of their amount but because of their effect on future performance. Interestingly, research and development costs have acquired an aura of productive potential in analysis exceeding what is often warranted by experience. There exist numerous cases of successful research and development activities in areas like genetics, chemistry, electronics, photography, and biology. But for each successful project there are countless failures. These research failures represent vast sums expensed or written off without measurable benefits. Our intent is to determine the amount of current research and development costs having future benefits. These benefits are often measured by relating research and development outlays to sales growth and new product development.

Analysis of Other Discretionary Costs

There are other discretionary future-directed outlays. Examples are costs of training, selling, managerial development, and repairs and maintenance. While these costs are usually expensed in the period incurred, they often have future utility. To the extent that these costs are separately disclosed in the income statement or the notes to the financial statements, analysis should recognize their effects in assessing current earnings and future prospects.

BALANCE SHEET ANALYSIS OF EARNINGS QUALITY

Conservatism in Reported Assets

The relevance of reported asset values is linked (with few exceptions like cash, held-to-maturity investments, and land) with their ultimate recognition as reported expenses. We can state this as a general proposition:

When assets are *overstated*, cumulative earnings are *overstated*.

This is true because earnings are relieved of charges necessary to bring these assets down to realizable values. Examples include the delay in recognizing impaired assets, such as obsolete inventories or unproductive plant and equipment, and the understatement of allowance for uncollectible accounts receivable. The converse is also true: when assets are *understated*, cumulative earnings are *understated*. An example is the unrecognized appreciation on an acquired business that is recorded at original purchase price.

Conservatism in Reported Provisions and Liabilities

Our analysis must be alert to the proposition relating provisions and liability values to earnings. In general,

When provisions and liabilities are understated, cumulative earnings are overstated.

This is true because earnings are relieved of charges necessary to bring the provisions or liabilities up to their market values. Examples are understatements in provisions for product warranties and environmental liabilities that yield overstatement in cumulative earnings. Conversely, an *overprovision* for current and future liabilities or losses yields an *understatement* of earnings (or overstatement of losses). An example is overestimation of severance costs of a planned restructuring.

We will describe in Chapter 6 how provisions for future costs and losses that are excessive shift the burden of costs and expenses from future income statements to the current period. Bearing in mind our propositions regarding the earnings effects from reported values of assets and liabilities, the critical analysis of these values represents an important factor in assessing earnings quality.

EXTERNAL FACTORS AND EARNINGS QUALITY

Earnings quality is affected by factors external to a company. These external factors make earnings more or less reliable. One factor is the quality of *foreign earnings*. Foreign earnings quality is affected by the difficulties and uncertainties in repatriation of funds, currency fluctuations, political and social conditions, and local customs and regulation. In certain countries, companies lack flexibility in dismissing personnel, which essentially converts labor into a fixed cost. Another factor affecting earnings quality is *regulation*. For example, the regulatory environment confronting a public utility affects its earnings quality. An unsympathetic or hostile regulatory environment can affect costs and selling prices and thereby diminish earnings quality due to increased uncertainty of future profits. Also, the stability and reliability of *earnings sources* affect earnings quality. Government defense-related revenues are dependable in times of high international tensions, but affected by political events in peacetime. *Changing price levels* affect earnings quality. When price levels are rising, “inventory profits” or understatements in expenses like depreciation lower earnings quality. Finally, because of uncertainties due to *complexities of operations*, earnings of certain conglomerates are considered of lower quality.

GUIDANCE ANSWERS TO ANALYSIS VIEWPOINTS

AUDITOR

An auditor’s main objective is an expression of an opinion on the fairness of financial statements according to generally accepted accounting principles. As auditor, you desire assurance on the absence of errors and irregularities in financial statements. Financial statement analysis can help identify any errors and

irregularities affecting the statements. Also, this analysis compels our auditor to understand the company’s operations and its performance in light of prevailing economic and industry conditions. Application of financial statement analysis is especially useful as a preliminary audit tool, directing the auditor to areas of greatest change and unexplained performance.

DIRECTOR

As a member of a company's board of directors, you are responsible for oversight of management and the safeguarding of shareholders' interests. Accordingly, a director's interest in the company is broad and risky. To reduce risk, a director uses financial statement analysis to monitor management and assess company profitability, growth, and financial condition. Because of a director's unique position, there is near unlimited access to internal financial and other records. Analysis of financial statements assists our director in: (1) recognizing causal relationships among business activities and events, (2) helping directors focus on the company and not on a maze of financial details, and (3) encouraging proactive and not reactive measures in confronting changing financial conditions.

BOARD MEMBER

Your concern with earnings quality is to ensure earnings accurately reflect the company's return and risk characteristics. Low earnings quality implies *inflated earnings* (returns) and/or *deflated risk* not reflecting actual return or risk characteristics. Regarding inflated earnings (returns), you can ask the auditor for evidence of management's use of liberal accounting principles or applications, aggressive behavior in discretionary accruals, asset overstatements, and liability understatements. Regarding deflated risk, you can ask about earnings sources, stability, variability, and trend. Additional risk-related questions can focus on the character or propensities of management, the regulatory environment, and overall business risk.

QUESTIONS

[Superscript ^A (^B) denotes assignments based on Appendix 2A (2B).]

- 2-1. Describe the U.S. financial reporting environment including the following:
 - a. Forces that impact the content of statutory financial reports
 - b. Rule-making bodies and regulatory agencies that formulate GAAP used in financial reports
 - c. Users of financial information and what alternative sources of information are available beyond statutory financial reports
 - d. Enforcement and monitoring mechanisms to improve the integrity of statutory financial reports
- 2-2. Why are earnings announcements made in advance of the release of financial statements? What information do they contain and how are they different from financial statements?
- 2-3. Describe the content and purpose of at least four financial reports that must be filed with the SEC.
- 2-4. What constitutes contemporary GAAP?
- 2-5. Explain how accounting standards are established.
- 2-6. Who has the main responsibility for ensuring fair and accurate financial reporting by a company?
- 2-7. Describe factors that bring about managerial discretion for preparing financial statements.
- 2-8. Describe forces that serve to limit the ability of management to manage financial statements.
- 2-9. Describe alternative information sources beyond statutory financial reports that are available to investors and creditors.
- 2-10. Describe tasks that financial intermediaries perform on behalf of financial statement users.
- 2-11. Explain historical cost and fair value models of accounting. What explains the move toward fair value accounting?
- 2-12. What is conservatism? What are its advantages?
- 2-13. What are the two types of conservatism? Which type of conservatism is more useful for analysis?
- 2-14. Describe empirical evidence showing that financial accounting information is relevant for decision making.
- 2-15. Describe at least four major limitations of financial statement information.
- 2-16. It is difficult to measure the business performance of a company in the short run using only cash flow measures because of timing and matching problems. Describe each of these problems and cite at least one example for each.
- 2-17. Describe the criteria necessary for a business to record revenue.

- 2-18. Explain when costs should be recognized as expenses.
- 2-19. Distinguish between short-term and long-term accruals.
- 2-20. Explain why cash flow measures of performance are less useful than accrual-based measures.
- 2-21. What factors give rise to the superiority of accrual accounting over cash accounting? Explain.
- 2-22. Accrual accounting information is conceptually more relevant than cash flows. Describe empirical findings that support this superiority of accrual accounting.
- 2-23. Accrual accounting information, cash flow information, and analysts' forecasts are information for investors. Compare and contrast each of these sources in terms of relevance and reliability.
- 2-24. Define income. Distinguish income from cash flow.
- 2-25. What are the two basic economic concepts of income? What implications do they have for analysis?
- 2-26. Economic income measures change in value while permanent income is proportional to value itself. Explain this statement.
- 2-27. Explain how accountants measure income.
- 2-28. Accounting income has elements of both permanent income and economic income. Explain this statement.
- 2-29. Distinguish between the permanent and transitory components of income. Cite an example of each, and discuss how each component affects analysis.
- 2-30. Define and cite an example of a value irrelevant component of income.
- 2-31. Determining core income is an important first step to estimating permanent income. Explain. What adjustments to net income should be made for estimating core income?
- 2-32. What adjustments would you make to net income to determine economic income?
- 2-33. Explain how accounting principles can, in certain cases, create differences between financial statement information and economic reality.
- 2-34. What are the key differences between the historical cost and the fair value models of accounting?
- 2-35. Describe what income purports to represent under the historical cost and the fair value accounting models. How is income determined under either model?
- 2-36. Provide a formal definition for fair value. What are the key elements of this definition?
- 2-37. Fair values are market-based measurements not entity-specific measurements. Explain with an example.
- 2-38. Explain the hierarchy of inputs used in determining fair values. The use of which level of input lowers the reliability of fair value estimates?
- 2-39. Which types of assets/liabilities lend themselves more easily to fair value measurements: financial or operating? Explain with reference to the hierarchy of inputs.
- 2-40. Describe the three basic valuation approaches for estimating fair values. Relate the valuation approaches to hierarchy of inputs.
- 2-41. Discuss the advantages and disadvantages of fair value accounting.
- 2-42. In your opinion does historical cost or fair value model generate more (a) relevant and (b) reliable accounting information? Argue your case.
- 2-43. What are the major issues that an analyst needs to consider when analyzing financial statements prepared under the fair value accounting model?
- 2-44. Explain how estimates and judgments of financial statement preparers can create differences between financial statement information and economic reality.
- 2-45. What is accounting analysis? Explain.
- 2-46. What is the process to carry out an accounting analysis?
- 2-47. What gives rise to accounting distortions? Explain.
- 2-48. Why do managers sometimes manage earnings?
- 2-49. What are popular earnings management strategies? Explain.
- 2-50. Explain what is meant by the term *earnings management* and what incentives managers have to engage in earnings management.

- 2-51. Describe the role that accrual accounting information and cash flow information play in your own models of company valuation.
- 2-52. Explain how accounting concepts and standards, and the financial statements based on them, are subject to the pervasive influence of individual judgments and incentives.
- 2-53. Would you be willing to pay more or less for a stock, on average, when the accounting information provided to you about the firm is unaudited? Explain.
- 2-54^A. What are generally accepted auditing standards?
- 2-55^A. What are auditing procedures? What are some basic objectives of a financial statement audit?
- 2-56^A. What does the opinion section of the auditor's report usually cover?
- 2-57^A. What are some implications to financial analysis stemming from the audit process?
- 2-58^A. An auditor does not prepare financial statements but instead samples and investigates data to render a professional opinion on whether the statements are "fairly presented." List the potential implications of the auditor's responsibility to users that rely on financial statements.
- 2-59^A. What does the auditor's reference to generally accepted accounting principles imply for our analysis of financial statements?
- 2-60^A. What are some circumstances suggesting higher audit risk? Explain.
- 2-61^A. **Citigroup** is currently audited by KPMG. Who pays KPMG for its audit of Citigroup? To whom is KPMG providing assurance regarding the fair presentation of the Citigroup financial statements? List two market forces faced by KPMG that increase the probability that the firm effectively performed an audit with the interests of financial statement users in mind.
- 2-62^A. Public accounting firms are being implored to assess a company's reported earnings per share relative to the market expectation of earnings per share (e.g., consensus analysts' forecast) when establishing the level of misstatement that is considered acceptable (the materiality threshold). Explain why a 1 cent misstatement can be insignificant for one firm but significant to another otherwise comparable firm.
- 2-63^B. What is meant by earnings quality? Why do users assess earnings quality? What major factors determine earnings quality?
- 2-64^B. What are discretionary expenses? What is the importance of discretionary expenses for analysis of earnings quality?
- 2-65^B. What is the relation between the reported value of assets and reported earnings? What is the relation between the reported values of liabilities, including provisions, and reported earnings?
- 2-66^B. How does a balance sheet analysis provide a check on the validity and quality of earnings?
- 2-67^B. What is the effect of external factors on earnings quality?
- 2-68^B. Explain how earnings management affects earnings quality. How is earnings management distinguished from fraudulent reporting?
- 2-69^B. Identify and explain three types of earnings management that can reduce earnings quality.
- 2-70^B. What factors and incentives motivate companies (management) to engage in earnings management? What are the implications of these incentives for financial statement analysis?

EXERCISES

EXERCISE 2-1

Uniformity in Accounting

Some financial statement users maintain that despite its intrinsic intellectual appeal, uniformity in accounting seems unworkable in a complex modern society that relies, at least in part, on economic market forces.

Required:

- Discuss at least three disadvantages of national or international accounting uniformity.
- Explain whether uniformity in accounting necessarily implies comparability.

Announcements of good news or bad news earnings for the recently completed fiscal quarter usually create fairly small abnormal stock price changes on the day of the announcement.

Required:

- a. Discuss how stock price changes over the preceding days or weeks help explain this phenomenon.
- b. Discuss the types of information that the market might have received in advance of the earnings announcement.
- c. How does the relatively small price reaction at the time of the earnings announcement relate to the price changes that are observed in the days or weeks prior to the announcement?

EXERCISE 2-2

*Earnings
Announcements and
Market Reactions*

Some financial statement users criticize the timeliness of annual financial statements.

Required:

- a. Explain why summary information in the income statement is not new information when the annual report is issued.
- b. Describe the types of information in the income statement that are new information to financial statement users when the annual report is issued.

EXERCISE 2-3

*Timeliness of
Financial Statements*

The SEC requires companies to submit statutory financial reports on both a quarterly and an annual basis. The quarterly report is called the 10-Q.

Required:

What are two factors about quarterly financial reports that can be misleading if the analyst does not consider them when performing analysis of quarterly reports?

EXERCISE 2-4

*Reliability of
Quarterly Reports*

The SEC requires various statutory reports from companies with publicly traded securities.

Required:

Identify which SEC report is the best place to find the following information.

- a. Management's discussion of the financial results for the fiscal year.
- b. Terms of the CEO's compensation and the total compensation paid to the CEO in the prior fiscal year.
- c. Who is on the board of directors and are they from within or outside of the company?
- d. How much are the directors paid for their services?
- e. Results of operations and financial position of the company at the end of the second quarter.
- f. Why a firm changed its auditors.
- g. Details for the upcoming initial public offering of stock.

EXERCISE 2-5

*Information in
SEC Reports*

Managers are responsible for ensuring fair and accurate financial reporting. Managers also have inside information that can aid their estimates of future outcomes. Yet, managers face incentives to strategically report information in their best interests.

Required:

Assume a manager of a publicly traded company is intending to recognize revenues in an inappropriate and fraudulent manner. Explain the penalty(ies) that can be imposed on a manager by the monitoring and enforcement mechanisms in place to restrict such activity.

EXERCISE 2-6

*Mechanisms to Monitor
Financial Reporting*

EXERCISE 2-7

*Incentives for
Voluntary Disclosure*

There are various motivations for managers to make voluntary disclosures. Identify whether you believe managers are likely to release the following information in the form of voluntary disclosure (examine each case independently):

- a. A company plans to sell an underperforming division for a substantial loss in the second quarter of next year.
- b. A company is experiencing disappointing sales and, as a result, expects to report disappointing earnings at the end of this quarter.
- c. A company plans to report especially strong earnings this quarter.
- d. Management believes the consensus forecast of analysts is slightly higher than managers' forecasts.
- e. Management strongly believes the company is undervalued at its current stock price.

EXERCISE 2-8

*Financial Statement
Information versus
Analysts Forecasts*

Financial statements are a major source of information about a company. Forecasts, reports, and recommendations from analysts are popular alternative sources of information.

Required:

- a. Discuss the strengths of financial statement information for business decision makers.
- b. Discuss the strengths of analyst forecast information for business decision makers.
- c. Discuss how the two information sources in (a) and (b) are interrelated.

EXERCISE 2-9

*Historical Cost versus
Fair Value*

Financial statements are inexorably moving to a model where all assets and liabilities will be measured on the basis of fair value rather than historical cost.

Required:

- a. Discuss the conceptual differences between historical cost and fair value.
- b. Discuss the merits and demerits of the two alternative measurement models.
- c. What types of assets (or liabilities) more readily lend themselves to fair value measurements? Can we visualize a scenario where all assets are measured using fair value?
- d. What are the likely effects of adopting the fair value model on reported income?

EXERCISE 2-10

*Accrual Accounting
versus Cash Flows*

- a. Identify at least two reasons why an accrual accounting income statement is more useful for analyzing business performance than a cash flow based income statement.
- b. Describe what would be reported on the asset side of a cash flow based balance sheet versus the asset side of an accrual accounting balance sheet.
- c. A strength of accrual accounting is its relevance for decision making. The strength of cash flow information is its reliability. Explain what makes accrual accounting more relevant and cash flows more reliable.

EXERCISE 2-11

*Analyst Forecasts versus
Financial Statements*

Analysts produce forecasts of accounting earnings along with other forward-looking information. This information has strengths and weaknesses versus financial statement information.

Required:

- a. Discuss whether you believe analysts forecasts are more relevant for business decision making than financial statement information.
- b. Discuss whether you believe analysts forecasts are more reliable than financial statement information.

Accrual accounting requires estimates of future outcomes. For example, the reserve for bad debts is a forecast of the amount of current receivables that will ultimately prove uncollectible.

Required:

Identify and explain three reasons why accounting information might deviate from the underlying economic reality. Cite examples of transactions that might give rise to each of the reasons.

EXERCISE 2-12

*Accrual Accounting
Measurement Error*

A former Chairman of the SEC refers to hidden reserves on the balance sheet as “cookie-jar” reserves. These reserves are built up in periods when earnings are strong and drawn down to bolster earnings in periods when earnings are weak.

Required:

Reserves for (1) bad debts and (2) inventory, along with the (3) large accruals associated with restructuring charges, are transactions that sometimes yield hidden reserves.

- a. For each of these transactions, explain when and how a hidden reserve is created.
- b. For each of these transactions, explain when and how a hidden reserve is drawn down to boost earnings.

EXERCISE 2-13

*Accounting for
Hidden Reserves*

In the past decade, several large “money center” banks recorded huge additions to their loan loss reserve. For example, **Citicorp** recorded a one-time addition to its loan loss reserve totaling about \$3 billion. These additions to loan loss reserves led to large net losses for these banks. While most analysts agree that additional reserves were warranted, many speculated the banks recorded more reserve than necessary.

Required:

- a. Why might a bank choose to record more loan loss reserve than necessary?
- b. Explain how overstated loan loss reserves can be used to manage earnings in future years.

EXERCISE 2-14

*Banks and
Hidden Reserves*

PROBLEMS

Financial statement users often liken accounting standard setting to a political process. One user asserted that: *My view is that the setting of accounting standards is as much a product of political action as of flawless logic or empirical findings. Why? Because the setting of standards is a social decision. Standards place restrictions on behavior; therefore, they must be accepted by the affected parties. Acceptance may be forced or voluntary or some of both. In a democratic society, getting acceptance is an exceedingly complicated process that requires skillful marketing in a political arena.* Many parties affected by proposed standards intervene to protect their own interests while disguising their motivations as altruistic or theoretical. People often say, “If you like the answer, you’ll love the theory.” It is also alleged that those who are regulated by the standard-setting process have excessive influence over the regulatory process. One FASB member declared: “The business community has much greater influence than it’s ever had over standard setting. I think it’s unhealthy. It is the preparer community that is really being regulated in this process, and if we have those being regulated having a dominant role in the regulatory process, that’s asking for major trouble.”

Required:

Discuss the relevance of the accounting standard-setting process to analysis of financial statements.

PROBLEM 2-1

*Financial Statement
Analysis and
Standard Setting*

PROBLEM 2-2

*Neutrality of
Measurements in
Financial Statements*

Financial reporting has been likened to cartography:

Information cannot be neutral—it cannot therefore be reliable—if it is selected or presented for the purpose of producing some chosen effect on human behavior. It is this quality of neutrality which makes a map reliable; and the essential nature of accounting, I believe, is cartographic. Accounting is financial mapmaking. The better the map, the more completely it represents the complex phenomena that are being mapped. We do not judge a map by the behavioral effects it produces. The distribution of natural wealth or rainfall shown on a map may lead to population shifts or changes in industrial location, which the government may like or dislike. That should be no concern of the cartographer. We judge his map by how well it represents the facts. People can then react to it as they will.

Required:

- a. Explain why neutrality is such an important quality of financial statements.
- b. Identify examples of the lack of neutrality in accounting reports.

PROBLEM 2-3

*Analysts' Information
Needs and Accounting
Measurements*

An editor of the *Financial Analysts Journal* reviewed an earlier edition of this book and asserted:

Broadly speaking, accounting numbers are of two types: those that can be measured and those that have to be estimated. Investors who feel that accounting values are more real than market values should remember that, although the estimated numbers in the accounting statements often have a greater impact, singly or together, than the measured numbers, accountants' estimates are rarely based on any serious attempt by accountants at business or economic judgment.

The main reason accountants shy away from precise statements of principle for the determination of asset values is that neither they nor anyone else has yet come up with principles that will consistently give values plausible enough that, if accounting statements were based on these principles, users would take them seriously.

Required:

- a. Describe what is meant by measurement in accounting.
- b. According to this editor, what are the kinds of measurements investors want?
- c. Discuss whether the objectives of accountants and investors regarding accounting measurement are reconcilable.

PROBLEM 2-4

*Standard Setting and
Politics*

A FASB member expressed the following view:

Are we going to set accounting standards in the private sector or not? . . . Part of the answer depends on how the business community views accounting standards. Are they rules of conduct, designed to restrain unsocial behavior and arbitrate conflicts of economic interest? Or are they rules of measurement, designed to generalize and communicate as accurately as possible the complex results of economic events? . . . Rules of conduct call for a political process . . . Rules of measurement, on the other hand, call for a research process of observation and experimentation . . . Intellectually, the case is compelling for viewing accounting as a measurement process . . . But the history of accounting standard setting has been dominated by the other view—that accounting standards are rules of conduct. The FASB was created out of the ashes of predecessors burned up in the fires of the resulting political process.

Required:

- a. Discuss your views on the difference between “rules of conduct” and “rules of measurement.”
- b. Explain how accounting standard setting is a political process. Identify arguments for and against viewing accounting standard setting as political.

Consider the following excerpt from the *Financial Analysts Journal*:

Strictly speaking, the objectives of financial reporting are the objectives of society and not of accountants and auditors, as such. Similarly, society has objective law and medicine—namely, justice and health for the people—which are not necessarily the objectives of lawyers and doctors, as such, in the conduct of their respective “business.”

In a variety of ways, society exerts pressure on a profession to act more nearly as if it actively shared the objectives of society. Society’s pressure is to be measured by the degree of accommodation on the part of the profession under pressure, and by the degree of counterpressure applied by the profession. For example, doctors accommodate society by getting better educations than otherwise and reducing incompetence in their ranks. They apply counterpressure and gain protection by forming medical associations.

PROBLEM 2–5

Accounting in Society

Required:

- a. Describe ways in which society has brought pressure on accountants to better serve its needs.
- b. Describe how the accounting profession has responded to these pressures. Could the profession have better responded?

A standard setter recently made a private remark that conservatism was a “barbaric relic” that violated the “neutrality” requirement of accounting information and that financial statements would be far more informative without conservatism.

PROBLEM 2–6

Conservatism

Required:

- a. What is conservatism? What are the reasons why conservatism continues to be dominant in financial statements?
- b. Do you agree with the observation by the standard setter?
- c. As an analyst would you prefer conservative accounting? Does your answer depend on your analysis objective? For example, would you prefer conservative accounting if you were an equity analyst?
- d. Many regard conservative accounting as “high-quality” accounting. Do you agree with this statement? Provide arguments for why you think conservative accounting increases or impedes accounting quality.
- e. Academics refer to two forms of conservatism. What are they? Which form of conservatism do you think is more useful for an analyst?

Consider the following claim from a business observer:

An accountant’s job is to conceal, not to reveal. An accountant is not asked to give outsiders an accurate picture of what’s going on in a company. He is asked to transform the figures on a company’s operations in such a way that it will be impossible to recreate the original figures.

An income statement for a toy company doesn’t tell how many toys of various kinds the company sold, or who the company’s best customers are. The balance sheet doesn’t tell how many of each kind of toy the company has in inventory, or how much is owed by each customer who is late in paying his bills.

PROBLEM 2–7

*Financial Reporting or
Financial Subterfuge*

In general, anything that a manager uses to do his job will be of interest to some stockholders, customers, creditors, or government agencies. Managerial accounting differs from financial accounting only because the accountant has to hide some of the facts and figures managers find useful. The accountant simply has to throw out most of the facts and some of the figures that the managers use when he creates the financial statements for outsiders.

The rules of accounting reflect this tension. Even if the accountant thought of himself as working only for the good of society, he would conceal certain facts in the reports he helps write. Since the accountant is actually working for the company, or even for the management of the company, he conceals many facts that outsiders would like to have revealed.

Required:

- a. Discuss this observer's misgivings on the role of the accountant in financial reporting.
- b. Discuss what type of omitted information the business observer is referring to.

PROBLEM 2-8

Contemporary Valuation

Equity valuations in today's market are arguably too high. Many analysts assert that price-to-earnings ratios are so high as to constitute an irrational valuation "bubble" that is bound to burst and drag valuations down. Skeptics are especially wary of the valuations for high-tech and Internet companies. Proponents of the "new paradigm" argue that the unusually high price-to-earnings ratios associated with many high-tech and Internet companies are justified because modern business is fundamentally different. In fact, many believe these companies are still, on average, undervalued. They argue that these companies have invested great sums in intangible assets that will produce large future profits. Also, research and development costs are expensed. This means they reduce income each period and are not reported as assets on the balance sheet. Consequently, earnings appear lower than normal and this yields price-to-earnings ratios that appear unreasonably high.

Required:

Assess and critique the positions of both the skeptics and proponents of this new paradigm.

PROBLEM 2-9

Income Measurement and Interpretation

In a discussion of corporate income, a user of financial statements alleges that "One of the real problems with income is that you never really know what it is. The only way you can find out is to liquidate a company and reduce everything to cash. Then you can subtract what went into the company from what came out and the result is income. Until then, income is only a product of accounting rituals."

Required:

- a. Do you agree with the above statement? Explain. What problems do you foresee in measuring income in the manner described?
- b. What assumptions underlie periodic measurement of income under accrual accounting? Which income approach do you think is more reasonable? Explain.

PROBLEM 2-10

Specialized Accounting Information

According to an article in *The Wall Street Journal*, a European filmmaking studio, **Polygram**, is considering funding movie production by selling securities. These securities will yield returns to investors based on the actual cash flows of the movies that are financed from the sale of these securities.

Polygram

Required:

- a. What information would you suggest the filmmakers provide to investors to encourage them to invest in the production of a particular movie or movies (i.e., what information is relevant to your decision to invest in a movie)?
- b. What kind of evidence can be included to support claims in the prospectus (i.e., what can maximize the reliability of the information released)?

The FASB in *SEAS No. 123*, “Accounting for Stock-Based Options,” encourages (but does not require) companies to recognize compensation expense based on the fair value of stock options awarded to their employees and managers. Early drafts of this proposal *required* the recognition of the fair value of the options. But the FASB met opposition from companies and chose to only *encourage* the recognition of fair value. Recently, however, FASB has revised this standard (*SEAS 123R*) so as to require recognition of option compensation expense.

PROBLEM 2–11
*Politics and
Promulgation of
Standards*

Required:

- a. Discuss the role you believe the following parties should play in the accounting standard promulgation process:
 - (1) FASB
 - (2) SEC
 - (3) AICPA
 - (4) Congress
 - (5) Companies (CEO)
 - (6) Accounting firms
 - (7) Investors
- b. Discuss which parties likely lobbied for the change from requiring expense recognition to only encouraging the expensing of stock options.

The following information is extracted from the annual report of **Lands’ End** (in millions, except per share data):

Lands’ End

PROBLEM 2–12
*Relations between
Income, Cash Flow,
and Stock Price*

Fiscal year	Year 9	Year 8	Year 7	Year 6	Year 5	Year 4
Net income	\$31.2	\$64.2	\$ 51.0	\$30.6	\$36.1	\$43.7
Cash from (used by) operations	74.3	(26.9)	121.8	41.4	34.5	22.4
Net cash flow	0.03	(86.5)	75.7	11.8	(16.1)	(1.2)
Free cash flow*	27.5	(74.6)	103.3	27.5	2.4	5.1
Market price per share (end of fiscal year)	32.375	39.312	28.375	14.625	16.125	24.375
Common shares outstanding	30.1	31.0	32.4	33.7	34.8	35.9

*Defined as: Cash flow from operations – Capital expenditures – Dividends.

Required:

- a. Calculate and graph the following separate relations:
 - (1) Net income per share (EPS) and market price per share
 - (2) Cash from operations per share and market price per share
 - (3) Net cash flow per share and market price per share
 - (4) Free cash flow per share and market price per share
- b. Which of the measures extracted from the annual report appear to best explain changes in stock price? Discuss the implications of this for stock valuation.
- c. Choose another company and prepare similar graphs. Do your observations from Lands’ End generalize?

CHECK
EPS performs best

PROBLEM 2–13

*Earnings
Management
Strategies*

The following information is taken from **Marsh Supermarkets** fiscal 20X7 annual report:

During the first quarter, we made several decisions resulting in a \$13 million charge to earnings. A new accounting pronouncement, *EAS 121*, required the Company to take a \$7.5 million charge. *EAS 121* dictates how companies are to account for the carrying values of their assets. This rule affects all public and private companies.

The magnitude of this charge created a window of opportunity to address several other issues that, in the Company's best long term interest, needed to be resolved. We amended our defined benefit retirement plan, and took significant reorganization and other special charges. These charges, including *EAS 121*, totaled almost \$13 million. The result was a \$7.1 million loss for the quarter and a small net loss for the year. Although these were difficult decisions because of their short term impact, they will have positive implications for years to come.

Marsh Supermarkets' net income for fiscal 20X5 and 20X6 is \$8.6 million and \$9.0 million, respectively.

Required:

What earnings management strategy appears to have been used by Marsh in fiscal 20X7 in conjunction with the *EAS 121* charge (note, the \$7.5 million charge from adoption of *EAS 121* is not avoidable)? Why do you think Marsh pursued this strategy?

CHECK

Big bath strategy

PROBLEM 2–14

*Earnings
Management
Strategies*

Emerson Electric is engaged in design, manufacture, and sale of a broad range of electrical, electromechanical, and electronic products and systems. The following shows Emerson's net income and net income before extraordinary items for the past 20 years (in millions):

Year	Net Income	Net Income before Extraordinary Items	Year	Net Income	Net Income before Extraordinary Items	Year	Net Income	Net Income before Extraordinary Items
Y1	\$201.0	\$201.0	Y8	\$408.9	\$408.9	Y15	\$ 708.1	\$ 708.1
Y2	237.7	237.7	Y9	467.2	467.2	Y16	788.5	904.4
Y3	273.3	273.3	Y10	528.8	528.8	Y17	907.7	929.0
Y4	300.1	300.1	Y11	588.0	588.0	Y18	1,018.5	1,018.5
Y5	302.9	302.9	Y12	613.2	613.2	Y19	1,121.9	1,121.9
Y6	349.2	349.2	Y13	631.9	631.9	Y20	1,228.6	1,228.6
Y7	401.1	401.1	Y14	662.9	662.9			

Emerson has achieved consistent earnings growth for more than 160 straight quarters (more than 40 years).

Required:

- What earnings strategy do you think Emerson has applied over the years to maintain its record of earnings growth?
- Describe the extent you believe Emerson's earnings record reflects business activities, excellent management, and/or earnings management.
- Describe how Emerson's earnings strategy is applied in good years and bad.
- Identify years where Emerson likely built hidden reserves and the years it probably drew upon hidden reserves.

CHECK

Income smoothing strategy

A finance textbook likens accrual accounting information to “nail soup.” The recipe for nail soup includes the usual soup ingredients such as broth and noodles, but it also includes nails. This means with each spoonful of nail soup, one gets nails with broth and noodles. Accordingly, to eat the soup, one must remove the nails from each spoonful. The textbook went on to say that accountants include much valuable information in financial reports but one must remove the accounting accruals (nails) to make the information useful.

Required:

Critique the analogy of accrual accounting to “nail soup.”

PROBLEM 2–15

*Usefulness of
Accrual
Accounting*

Consider the following: *While accrual accounting information is imperfect, ignoring it and making cash flows the basis of all analysis and business decisions is like throwing the baby out with the bath water.*

Required:

- Do you agree or disagree with this statement? Explain.
- How does accrual accounting provide superior information to cash flows?
- What are the imperfections of accrual accounting? Is it possible for accrual accounting to depict economic reality? Explain.
- What is the prudent approach to analysis using accrual accounting information?

PROBLEM 2–16

Relevance of Accruals

The following is an excerpt from a quarterly earnings announcement by **American Express**:

American Express

PROBLEM 2–17^B

Earnings Quality

American Express Reports Record Quarterly Net Income of \$648 Million

(\$ millions except per share amounts)	QUARTER ENDED SEPTEMBER 30		Percentage Inc./((Dec.))
	20X9	20X8	
Net income	\$ 648	\$ 574	13.0%
Net revenues	\$ 4,879	\$ 4,342	12.4%
Per share net income (Basic)	\$ 1.45	\$ 1.27	14.2%
Average common shares outstanding	446.0	451.6	(1.2%)
Return on average equity	25.3%	23.9%	

(\$ millions except per share amounts)	NINE MONTHS ENDED SEPTEMBER 30		Percentage Inc./((Dec.))
	20X9	20X8	
Net income	\$ 1,869	\$ 1,611	16.0%
Net revenues	\$14,211	\$12,662	12.2%
Per share net income (Basic)	\$ 4.18	\$ 3.53	18.4%
Average common shares outstanding	447.0	456.2	(2.0%)
Return on average equity	25.3%	23.9%	

Due to a change in accounting rules, the company is required to capitalize software costs rather than expense them as they occur. For the third quarter of 20X9, this amounted to a pre-tax benefit of \$68 million (net of amortization). Also, the securitization of credit card receivables produced a gain of \$55 million (\$36 million after tax) in the current quarter.

CHECK*Adjust for unusual items**Required:*

Evaluate and comment on both (a) the earnings quality and (b) the relative performance of American Express in the most recent quarter relative to the same quarter of the prior fiscal year.

CASES**CASE 2-1***Analysis of**Colgate's Statements*

Answer the following questions using the annual report of **Colgate** in **Colgate** Appendix A.

- Who is responsible for the preparation and integrity of Colgate's financial statements and notes? Where is this responsibility stated in the annual report?
- In which note does Colgate report its significant accounting policies used to prepare financial statements?
- What type of audit opinion is reported in its annual report and whose opinion is it?
- Is any of the information in its annual report based on estimates? If so, where does Colgate discuss this?

CASE 2-2*Industry Accounting
and Analysis:**Historical Case*

Two potential methods of accounting for the cost of oil drilling are full cost and successful efforts. Under the *full-cost method*, a drilling company capitalizes costs both for successful wells and dry holes. This means it classifies all costs as assets on its balance sheet. A company charges these costs against revenues as it extracts and sells the oil. Under the *successful-efforts method*, a company expenses the costs of dry holes as they are incurred, resulting in immediate charges against earnings. Costs of only successful wells are capitalized. Many small and midsized drilling companies use the full-cost method and, as a result, millions of dollars of drilling costs appear as assets on their balance sheets.

The SEC imposes a limit to full-cost accounting. Costs capitalized under this method cannot exceed a ceiling defined as the present value of company reserves. Capitalized costs above the ceiling are expensed. Oil companies, primarily smaller ones, have been successful in prevailing on the SEC to keep the full-cost accounting method as an alternative even though the accounting profession took a position in favor of the successful-efforts method. Because the imposition of the ceiling rule occurred during a time of relatively high oil prices, the companies accepted it, confident that it would have no practical effect on them.

With a subsequent decline in oil prices, many companies found that drilling costs carried as assets on their balance sheets exceeded the sharply lower ceilings. This meant they were faced with write-offs. Oil companies, concerned about the effect that big write-offs would have on their ability to conduct business, began a fierce lobbying effort to change SEC accounting rules so as to avoid sizable write-offs that threatened to lower their earnings as well as their equity capital. The SEC staff supported a suspension of the rules because, they maintained, oil prices could rise and because companies would still be required to disclose the difference between the market value and book value of their oil reserves. The proposal would have temporarily relaxed the rules pending the results of a study by the SEC on whether to change or rescind the ceiling test. The proposal would have suspended the requirement to use current prices when computing the ceiling amount in determining whether a write-off of reserves is required. The SEC eventually rejected the proposal that would have enabled 250 of the nation's oil and gas producing companies to postpone write-downs on the declining values of their oil and gas reserves while acknowledging that the impact of the decision could trigger defaults on bank loans. The SEC chairman said "the rules are not stretchable at a time of stress."

Tenneco Co. found a way to cope with the SEC's refusal to sanction postponement of the write-offs. It announced a switch to successful-efforts accounting along with nearly \$1 billion in charges against prior years' earnings. In effect, Tenneco would take the unamortized dry-hole drilling costs currently on its balance sheet and apply them against prior years' revenues. These costs would affect prior year results only and would not show up as write-offs against currently reported income.

Required:

- Discuss what conclusions an analyst might derive from the evolution of accounting in the oil and gas industry.
- Explain the potential effect Tenneco's proposed change in accounting method would have on the reporting of its operating results over the years.

Canada Steel Co. produces steel casting and metal fabrications for sale to manufacturers of heavy construction machinery and agricultural equipment. Early in Year 3, the company's president sent the following memorandum to the financial vice president:

CASE 2-3^B*Earnings Quality and Accounting Changes*

TO: Robert Kinkaid, Financial Vice President
 FROM: Richard Johnson, President
 SUBJECT: Accounting and Financial Policies

Fiscal Year 2 was a difficult year for us, and the recession is likely to continue into Year 3. While the entire industry is suffering, we might be hurting our performance unnecessarily with accounting and business policies that are not appropriate. Specifically:

- (1) We depreciate most fixed assets (foundry equipment) over their estimated useful lives on the "tonnage-of-production" method. Accelerated methods and shorter lives are used for income tax purposes. A switch to straight-line for financial reporting purposes could (a) eliminate the deferred tax liability on our balance sheet, and (b) leverage our profits if business picks up in Year 4.
- (2) Several years ago you convinced me to change from the FIFO to LIFO inventory method. Since inflation is now down to a 4 percent annual rate, and balance sheet strength is important in our current environment, I estimate we can increase shareholders' equity by about \$2.0 million, working capital by \$4.0 million, and Year 3 earnings by \$0.5 million if we return to FIFO in Year 3. This adjustment is real—these profits were earned by us over the past several years and should be recognized.
- (3) If we make the inventory change, our stock repurchase program can be continued. The same shareholder who sold us 50,000 shares last year at \$100 per share would like to sell another 20,000 shares at the same price. However, to obtain additional bank financing, we must maintain the current ratio at 3:1 or better. It seems prudent to decrease our capitalization if return on assets is unsatisfactory and our industry is declining. Also, interest rates are lower (11 percent prime) and we can save \$60,000 after taxes annually once our \$3.00 per share dividend is resumed.

These actions would favorably affect our profitability and liquidity ratios as shown in the *pro forma* income statement and balance sheet data for Year 3 (\$ millions).

	Year 1	Year 2	Year 3 Estimate
Net sales	\$50.6	\$42.3	\$29.0
Net income (loss)	\$ 2.0	\$ (5.7)	\$ 0.1
Net profit margin	4.0%	—	0.3%
Dividends	\$ 0.7	\$ 0.6	\$ 0.0
Return on assets	7.2%	—	0.4%
Return on equity	11.3%	—	0.9%
Current assets	\$17.6	\$14.8	\$14.5
Current liabilities	\$ 6.6	\$ 4.9	\$ 4.5
Long-term debt	\$ 2.0	\$ 6.1	\$ 8.1
Shareholders' equity	\$17.7	\$11.4	\$11.5
Shares outstanding (000s)	226.8	170.5	150.5
Per common share:			
Book value	\$78.05	\$66.70	\$76.41
Market price range	\$42–\$34	\$65–\$45	\$62–\$55*

*Year to date.

Please give me your reaction to my proposals as soon as possible.

Required

Assume you are Robert Kinkaid, the financial vice president. Appraise the president's rationale for each of the proposals. You should place special emphasis on how each accounting or business decision affects earnings quality. Support your response with ratio analysis.

CHECK

Sig. incr. in debt-to-equity