CENGAGE

10th Edition

Financial Reporting, Financial Statement Analysis, and Valuation

Wahlen • Baginski • Bradshaw

SUMMARY OF KEY FINANCIAL STATEMENT RATIOS

(Indicates Page in Text Where Ratio Is Initially Discussed)

PROFITABILITY RATIOS

Return on Assets (ROA)

$$= \frac{\text{Net Income Attributable to Common Shareholders} + (1 - \text{Tax Rate})(\text{Interest Expense}) + \text{Noncontrolling Interest in Earnings}}{\text{Average Total Assets}}$$

(Page 201)

Profit Margin for ROA

$$= \frac{\text{Net Income Attributable to Common Shareholders} + (1 - \text{Tax Rate})(\text{Interest Expense}) + \text{Noncontrolling Interest in Earnings}}{\text{Sales}}$$

(Page 206)

$$\text{Total Assets Turnover} = \frac{\text{Sales}}{\text{Average Total Assets}}$$

(Page 206)

Return on Common Equity (ROCE)

$$= \frac{\text{Net Income} - \text{Noncontrolling Interest in Earnings} - \text{Preferred Stock Dividends}}{\text{Average Common Shareholders' Equity}}$$

(Page 207)

$$\text{Profit Margin for ROCE} = \frac{\text{Net Income} - \text{Noncontrolling Interest in Earnings} - \text{Preferred Stock Dividends}}{\text{Sales}}$$

(Page 213)

$$\text{Capital Structure Leverage} = \frac{\text{Average Total Assets}}{\text{Average Common Shareholders' Equity}}$$

(Page 213)

FINANCIAL FLEXIBILITY

$$\text{ROCE} = \text{Operating ROA} + (\text{Leverage} \times \text{Spread})$$

(Page 288)

$$\text{Operating ROA} = \frac{\text{Net Income Attributable to Common Shareholders} + (1 - \text{Tax Rate})(\text{Interest Expense}) + \text{Noncontrolling Interest in Earnings}}{\text{Average Net Operating Assets}}$$

(Page 288)

$$\text{Leverage} = \frac{\text{Average Financing Obligations}}{\text{Average Common Shareholders' Equity}}$$

(Page 292)

$$\text{Spread} = \text{Operating ROA} - \text{Net Borrowing Rate}$$

(Page 292)

$$\text{Net Borrowing Rate} = \frac{\text{Net Financing Expense (After Tax)}}{\text{Average Financing Obligations}}$$

(Page 292)

RISK RATIOS

Short-Term Liquidity Risk

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$
(Page 295)

$$\text{Quick Ratio} = \frac{\text{Cash and Cash Equivalents} + \text{Short-Term Investments} + \text{Accounts Receivable}}{\text{Current Liabilities}}$$
(Page 296)

$$\text{Operating Cash Flow to Current Liabilities Ratio} = \frac{\text{Cash Flow from Operations}}{\text{Average Current Liabilities}}$$
(Page 297)

$$\text{Accounts Receivable Turnover} = \frac{\text{Sales}}{\text{Average Accounts Receivable}}$$
(Page 297)

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventories}}$$
(Page 297)

$$\text{Accounts Payable Turnover} = \frac{\text{Purchases}}{\text{Average Accounts Payable}}$$
(Page 297)

Long-Term Solvency Risk

$$\text{Liabilities to Assets Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$
(Page 301)

$$\text{Liabilities to Shareholders' Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Shareholders' Equity}}$$
(Page 301)

$$\text{Long-Term Debt to Long-Term Capital Ratio} = \frac{\text{Long-Term Debt}}{\text{Long-Term Debt} + \text{Total Shareholders' Equity}}$$
(Page 301)

$$\text{Long-Term Debt to Shareholders' Equity Ratio} = \frac{\text{Long-Term Debt}}{\text{Total Shareholders' Equity}}$$
(Page 301)

$$\text{Interest Coverage Ratio (Net Income Basis)} = \frac{\text{Net Income} + \text{Interest Expense} + \text{Income Tax Expense} + \text{Net Income Attributable to Noncontrolling Interests}}{\text{Interest Expense}}$$
(Page 303)

$$\text{Interest Coverage Ratio (Cash Flow Basis)} = \frac{\text{Cash Flow from Operations} + \text{Cash Payments for Interest (including imputed interest)} + \text{Cash Payments for Income Taxes}}{\text{Cash Payments for Interest}}$$
(Page 303)

$$\text{Operating Cash Flow to Total Liabilities Ratio} = \frac{\text{Cash Flow from Operations}}{\text{Average Total Liabilities}}$$
(Page 304)

10E

Financial Reporting, Financial Statement Analysis, and Valuation

A Strategic Perspective

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For our students,

with thanks for permitting us to take the journey with you

For Clyde Stickney and Paul Brown,

with thanks for allowing us the privilege to carry on their legacy of teaching through this book

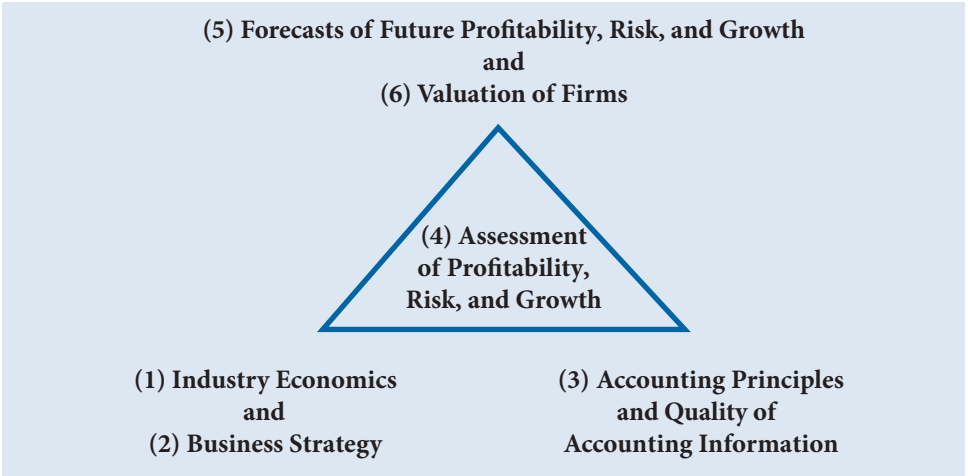
For our families, with love,

Debbie, Jessica and Ailsa, Jaymie, Aaron and Esther, Lynn, Drew, Rachel, Sophia, Lily, and Ella, Marie and Charlie, Kim, Ben, and Lucy

The process of financial reporting, financial statement analysis, and valuation helps investors and analysts understand a firm's profitability, risk, and growth; use that information to forecast future profitability, risk, and growth; and ultimately to value the firm, enabling intelligent investment decisions. This process is central to the role of accounting, financial reporting, capital markets, investments, portfolio management, and corporate management in the world economy. When conducted with care and integrity, financial statement analysis and valuation are fascinating and rewarding activities that can create tremendous value for society. However, as past financial crises in our capital markets reveal, when financial statement analysis and valuation are conducted carelessly or without integrity, they can create enormous loss of value in the capital markets and trigger deep recession in even the most powerful economies in the world. The stakes are high.

Given the profound importance of financial reporting, financial statement analysis, and valuation, and given changing accounting rules and enhanced regulations in the capital markets, this textbook provides you with a principled and disciplined approach for analysis and valuation. This textbook explains and demonstrates a thoughtful and thorough six-step framework you can use for financial statement analysis and valuation. You should begin an effective analysis of a set of financial statements with an evaluation of **(1)** the economic characteristics and competitive conditions of the industries in which a firm competes and **(2)** the particular strategies the firm executes to compete in each of these industries. Your analysis should then move to **(3)** assessing how well the firm's financial statements reflect the economic effects of the firm's strategic decisions and actions. Your assessment requires an understanding of the accounting principles and methods used to create the financial statements, the relevant and reliable information that the financial statements provide, and the appropriate adjustments that you might make to improve the quality of that information. Note that, in this text, we help you embrace financial reporting and financial statement analysis based on U.S. Generally Accepted Accounting Principles (GAAP) as well as International Financial Reporting Standards (IFRS) used by companies in many of the world's strongest economies, including the European Union, the United Kingdom, Japan, and Canada. Next, you should **(4)** assess the profitability, risk, and growth of the firm using financial statement ratios and other analytical tools and then **(5)** forecast the firm's future profitability, risk, and growth, incorporating information about expected changes in the economics of the industry and the firm's strategies. Finally, you can **(6)** value the firm using various valuation methods, making an investment decision by comparing likely ranges of your value estimate to the observed market value. This six-step process forms the conceptual and pedagogical framework for this book, and it is a principled and disciplined approach you can use for intelligent analysis and valuation decisions.

All textbooks on financial statement analysis include step (4), assessing the profitability, risk, and growth of a company. Textbooks differ, however, with respect to their emphases on the other five steps. Consider the following depiction of these steps.



Our view is that these six steps must form an integrated approach for effective and complete financial statement analysis. We have therefore structured and developed this book to provide balanced, integrated coverage of all six elements. We sequence our study by beginning with industry economics and firm strategy, moving to a general consideration of GAAP and IFRS and the quality of accounting information, and providing a structure and tools for the analysis of profitability, risk, and growth. We then examine specific accounting issues and the determinants of accounting quality and conclude with forecasting and valuation. We anchor each step in the sequence on the firm's profitability, risk, and growth, which are the fundamental drivers of value. We continually relate each part to those preceding and following it to maintain this balanced, integrated perspective.

The premise of this book is that you will learn financial statement analysis most effectively by performing the analysis on actual companies. The book's narrative sets forth the important concepts and analytical tools and demonstrates their application using the financial statements of **Clorox**. Each chapter contains a set of questions, exercises, problems, and cases based primarily on financial statement data of actual companies. Each chapter also contains an integrative case involving **Walmart** so you can apply the tools and methods throughout the text. A financial statement analysis package (FSAP) is available to aid you in your analytical tasks (discussed later).

Some of the Highlights of This Edition

In the 10th edition, the author team of James Wahlen, Stephen Baginski, and Mark Bradshaw continues to improve on the foundations established by Clyde Stickney and Paul Brown. Clyde Stickney, the original author of the first three editions of this book and coauthor of the fourth, fifth, and sixth editions, is enjoying his well-earned retirement. Paul Brown, a coauthor of the fourth, fifth, and sixth editions, recently announced his retirement as the president of Monmouth University. Jim, Steve, and Mark are internationally recognized research scholars and award-winning teachers in accounting, financial statement analysis, and valuation. They continue to bring many fresh new ideas and insights to produce a new edition with a strong focus on thoughtful and disciplined fundamental analysis, a broad and deep coverage of accounting issues including IFRS, and expanded analysis of companies within a global economic environment.

The next section highlights the content of each chapter. Listed below are some of the major highlights in this edition that impact all chapters or groups of chapters.

1. As in prior editions, the 10th edition uses a "golden thread" case company in each chapter. We now illustrate and highlight each step of the analysis in each chapter using the financial statements of **Clorox**. **The financial statements and disclosures of Clorox provide an excellent setting for teaching financial statements analysis because most students are familiar with the company; it has an effective strategy; and it has many important accounting, analysis, and valuation issues.** In the material at the end of each chapter, we also use **Walmart** as a "golden thread" case company.
2. **The exposition of each chapter has been further streamlined.** Known for being a well-written, accessible text, this edition presents each chapter in more concise, direct discussion, so you can get the key insights quickly and efficiently. To achieve the streamlining, some highly technical (mainly accounting-related) material has been moved to online appendices that students may access at www.cengagebrain.com.
3. Many chapters include **quick checks**, so you can be sure you have obtained the key insights from reading each section. In addition, each section and each of the end-of-chapter questions, exercises, problems, and cases is **cross-referenced to learning objectives**, so you can be sure that you can implement the critical skills and techniques associated with each of the learning objectives.
4. The chapters on profitability analysis (**Chapter 4**) and risk analysis (**Chapter 5**) continue to provide **disaggregation of return on common equity** into profitability, efficiency, and leverage, as well as an alternative partition into operating versus financing components.
5. The book's companion website, www.cengagebrain.com, contains an **updated Appendix D** with descriptive statistics on 20 commonly used financial ratios computed over the past 10 years for 48 industries. These ratios data enable you to benchmark your analyses and forecasts against industry averages.

6. The chapters on accounting quality continue **to provide broad coverage of accounting for financing, investing, and operating activities**. **Chapter 6** discusses the determinants of accounting quality, how to evaluate accounting quality, and how to adjust reported earnings and financial statements to cleanse low-quality accounting items. Then the discussion proceeds across the primary business activities of firms in the natural sequence in which the activities occur—raising financial capital, investing that capital in productive assets, and operating the business. **Chapter 7** discusses accounting for financing activities. **Chapter 8** describes accounting for investing activities, and **Chapter 9** deals with accounting for operating activities. Detailed examples of foreign currency translation and accounting for various hedging activities have been moved to online appendices.
7. The chapters on accounting quality continue to provide **more in-depth analyses of both balance sheet and income statement quality**.
8. Each chapter includes **relevant discussion of current U.S. GAAP and IFRS, how U.S. GAAP compares to IFRS**, and how you should deal with such differences in financial statement analysis. **New material includes recent major changes in accounting standards dealing with revenue recognition, leasing, and investments in securities.** End-of-chapter materials contain many problems and cases involving non-U.S. companies, with **application of financial statement analysis techniques to IFRS-based financial statements**.
9. Each chapter provides references to specific standards in U.S. GAAP using the **FASB Codification system**.
10. The chapters provide a number of **relevant insights from empirical accounting research**, pertinent to financial statement analysis and valuation.
11. The end-of-chapter material for each chapter contains portions of an **updated, integrative case applying the concepts and tools discussed in that chapter to Walmart**.
12. Each chapter contains **new or substantially revised and updated end-of-chapter material, including new problems and cases**. This material is relevant, real-world, and written for maximum learning value.
13. The Financial Statement Analysis Package (**FSAP**) available with this book has been **made more user-friendly**.

Overview of the Text

This section briefly describes the content and highlights of each chapter.

Chapter 1—Overview of Financial Reporting, Financial Statement Analysis, and Valuation. This chapter introduces you to the six interrelated sequential steps in financial statement analysis that serve as the organization structure for this book. It presents you with several frameworks for understanding the industry economics and business strategy of a firm and applies them to **Clorox**. It also reviews the purpose, underlying concepts, and content of each of the three principal financial statements, including those of non-U.S. companies reporting using IFRS. This chapter also provides the rationale for analyzing financial statements in capital market settings, including showing you some very compelling results from an empirical study of the association between unexpected earnings and market-adjusted stock returns as well as empirical results showing that fundamental analysis can help investors generate above-market returns. Our examination of the course syllabi of users of the previous edition indicated that most courses require students to engage in such a project. This appendix guides you in how to proceed, where to get information, and so on.

In addition to the new integrative case involving **Walmart**, the chapter includes an updated version of a case involving **Nike**.

Chapter 2—Asset and Liability Valuation and Income Recognition. This chapter covers three topics we believe you need to review from previous courses before delving into the more complex topics in this book.

- First, we discuss the link between the valuation of assets and liabilities on the balance sheet and the measurement of income. We believe that you will understand topics such as revenue recognition and accounting for marketable securities, derivatives, pensions, and other topics more easily when you examine them with an appreciation for the inherent trade-off of a balance sheet versus income statement perspective. This chapter also reviews the trade-offs faced by accounting standard setters, regulators, and corporate managers who attempt to simultaneously provide both reliable and relevant financial statement information. We also examine whether firms should recognize value changes immediately in net income or delay their recognition, sending them temporarily through other comprehensive income.
- Second, we present a framework for analyzing the dual effects of economic transactions and other events on the financial statements. This framework relies on the balance sheet equation to trace these effects through the financial statements. Even students who are well grounded in double-entry accounting find this framework helpful in visually identifying the effects of various complex business transactions, such as corporate acquisitions, derivatives, and leases. We use this framework in subsequent chapters to present and analyze transactions, as we discuss various GAAP and IFRS topics.

A_{BEG} =	L_{BEG}	+	CC_{BEG}	+	$AOCI_{BEG}$	+	RE_{BEG}
+ΔA	+ΔL		+ΔStock		+OCI		+NI −D
A_{END} =	L_{END}	+	CC_{END}	+	$AOCI_{END}$	+	RE_{END}

[BEG = Beginning, END = End, A=Assets, L=Liabilities, CC=Contributed Capital, AOCI=Accumulated Other Comprehensive Income, RE=Retained Earnings, Stock=Common and Preferred Capital Stock Accounts, OCI=Other Comprehensive Income, NI=Net Income, and D=Dividends.]

- Third, we discuss the measurement of income tax expense, particularly with regard to the treatment of temporary differences between book income and taxable income. Virtually every business transaction has income tax consequences, and it is crucial that you grasp the information conveyed in income tax disclosures.

The end-of-chapter materials include various asset and liability valuation problems involving **Biosante Pharmaceuticals**, **Prepaid Legal Services**, and **Nike**, as well as the integrative case involving **Walmart**.

Chapter 3—Income Flows versus Cash Flows: Understanding the Statement of Cash Flows. Chapter 3 reviews the statement of cash flows and presents a model for relating the cash flows from operating, investing, and financing activities to a firm's position in its life cycle. The chapter demonstrates procedures you can use to prepare the statement of cash flows when a firm provides no cash flow information. The chapter also provides new insights that place particular emphasis on how you should use information in the statement of cash flows to assess earnings quality.

The end-of-chapter materials utilize cash flow and earnings data for a number of companies including **Tesla**, **Amazon**, **Kroger**, **Coca-Cola**, **Texas Instruments**, **Sirius XM Radio**, **Apollo Group**, and **AerLingus**. A case (Prime Contractors) illustrates the relation between earnings and cash flows as a firm experiences profitable and unprofitable operations and changes its business strategy. The classic W. T. Grant case illustrating the use of earnings and cash flow information to assess solvency risk and avoid bankruptcy has been moved to an online appendix.

Chapter 4—Profitability Analysis. This chapter discusses the concepts and tools for analyzing a firm's profitability, integrating industry economic and strategic factors that affect the interpretation of financial ratios. It applies these concepts and tools to the analysis of the profitability of **Clorox**. The analysis of profitability centers on the rate of return on assets and its disaggregated components, the rate of return on common shareholders' equity and its disaggregated components, and earnings per share. The chapter contains a section on alternative profitability measures, including a discussion of "street earnings." This chapter also considers analytical tools unique to certain industries, such as airlines, service firms, retailers, and technology firms.

A number of problems and exercises at the end of the chapter cover profitability analyses for companies such as **Nucor Steel**, **Hershey**, **Microsoft**, **Oracle**, **Dell**, **Sun Microsystems**, **Texas Instruments**, **Hewlett Packard**, **Georgia Pacific**, **General Mills**, **Abercrombie & Fitch**, **Hasbro**, and many others. The integrative case examines **Walmart's** profitability.

Chapter 5—Risk Analysis. This chapter begins with a discussion of recently required disclosures on the extent to which firms are subject to various types of risk, including unexpected changes in commodity prices, exchange rates, and interest rates and how firms manage these risks. The chapter provides new insights and discussion about the benefits and dangers associated with financial flexibility and the use of leverage. This edition shows you how to decompose return on common equity into components that highlight the contribution of the inherent profitability of the firm's assets and the contribution from the strategic use of leverage to enhance the returns to common equity investors. The chapter provides you an approach to in-depth financial statement analysis of various risks associated with leverage, including short-term liquidity risk, long-term solvency risk, credit risk, bankruptcy risk, and systematic and firm-specific market risk. This chapter also describes and illustrates the calculation and interpretation of risk ratios and applies them to the financial statements of **Clorox**, focusing on both short-term liquidity risk and long-term solvency risk. We also explore credit risk and bankruptcy risk in greater depth.

A unique feature of the problems in Chapters 4 and 5 is the linking of the analysis of several companies across the two chapters, including problems involving **Hasbro**, **Abercrombie & Fitch**, and **Walmart**. In addition, other problems focus on risk-related issues for companies like **Coca-Cola**, **Delta Air Lines**, **VF Corporation**, **Best Buy**, **Circuit City**, **Whole Foods**, **The Tribune Company**, and **The Washington Post**. Chapter-ending cases involve risk analysis for **Walmart** and classic cases on credit risk analysis **(Massachusetts Stove Company)** and bankruptcy prediction **(Fly-By-Night International Group)**.

Chapter 6—Accounting Quality. This chapter provides an expanded discussion of the quality of income statement and balance sheet information, emphasizing faithful representation of relevant and substantive economic content as the key characteristics of high quality, useful accounting information. The chapter also alerts you to the conditions under which managers might likely engage in earnings management. The discussion provides a framework for accounting quality analysis, which is used in the discussions of various accounting issues in Chapters 7 through 9. We consider several financial reporting topics that primarily affect the persistence of earnings, including gains and losses from discontinued operations, changes in accounting principles, other comprehensive income items, impairment losses, restructuring charges, changes in estimates, and gains and losses from peripheral activities. The chapter concludes with an assessment of accounting quality by separating accruals and cash flows and an illustration of Beneish's (1999) multivariate model for identifying potential financial statement manipulators.

Chapter-ending materials include problems involving **Nestlé**, **Checkpoint Systems**, **Rock of Ages**, **Vulcan Materials**, **Northrop Grumman**, **Intel**, **Enron**, **Socket Mobile**, **Harley-Davidson**, **Chipotle, and Sunbeam**. End-of-chapter materials also include an integrative case involving the analysis of **Walmart's** accounting quality.

Chapter 7—Financing Activities. This chapter has been structured along with Chapters 8 and 9 to discuss accounting issues in their natural sequence—raising financial capital, investing the capital in productive assets, and then managing the operations of the business. Chapter 7 discusses the accounting principles and practices under U.S. GAAP and IFRS associated with firms' financing activities. The chapter begins by describing the financial statement reporting of capital investments by owners (equity issues) and distributions to owners (dividends and share repurchases), and the accounting for equity issued to compensate employees (stock options, stock appreciation rights, and restricted stock). The chapter demonstrates how shareholders' equity reflects the effects of transactions with non-owners that flow through the income statement (net income) and those that do not (other comprehensive income). The chapter then describes the financial reporting for long-term debt (bonds, notes payable, operating and finance lease liabilities, and troubled debt), hybrid securities (convertible bonds, preferred stock), and derivatives used to hedge interest rate risk (an online appendix provides specific examples of accounting for interest rate swaps). Throughout the chapter, we highlight the differences between U.S. GAAP and IFRS in the area of equity and debt financing.

In addition to various questions and exercises, the end-of-chapter material includes problems probing accounting for various financing alternatives, **Ford Motor** Credit's securitization of receivables, and stock-based compensation at **Coca-Cola** and **Eli Lilly**. End-of-chapter cases include the integrative case involving **Walmart** and a case on stock compensation at **Oracle**.

Chapter 8—Investing Activities. This chapter discusses various accounting principles and methods under U.S. GAAP and IFRS associated with a firm's investments in long-lived tangible assets, intangible assets, and financial instruments. The chapter demonstrates the accounting for a firm's investments in tangible productive assets including property, plant, and equipment, including the initial decision to capitalize or expense and the use of choices and estimates to allocate costs through the depreciation process. The chapter demonstrates alternative ways that firms account for intangible assets, highlighting research and development expenditures, software development expenditures, and goodwill, including the exercise of judgment in the allocation of costs through the amortization process. The chapter reviews and applies the rules for evaluating the impairment of different categories of long-lived assets, including goodwill. The chapter then describes accounting and financial reporting of intercorporate investments in securities (trading securities, available-for-sale securities, held-to-maturity securities, and noncontrolled affiliates) and corporate acquisitions. The chapter reviews accounting for variable-interest entities, including the requirement to consolidate them with the firm identified as the primary beneficiary. Finally, an online appendix to the chapter addresses foreign investments by preparing a set of translated financial statements using the all-current method and the monetary/nonmonetary method and describing the conditions under which each method best portrays the operating relationship between a U.S. parent firm and its foreign subsidiary.

The end-of-chapter questions, exercises, problems, and cases include a problem involving **Molson Coors Brewing Company** and its variable interest entities, an integrative application of the chapter topics to **Walmart**, and a case involving Disney's acquisition of Marvel Entertainment.

Chapter 9—Operating Activities. Chapter 9 discusses how financial statements prepared under U.S. GAAP or IFRS capture and report the firm's operating activities. The chapter opens with a discussion of how financial accounting measures and reports the revenues and expenses generated by a firm's operating activities, as well as the related assets, liabilities, and cash flows. This discussion reviews the criteria for recognizing revenue and expenses under the accrual basis of accounting and applies these criteria to various types of businesses. The revenue recognition discussion is based on the new revenue recognition standard. The chapter analyzes and interprets the effects of FIFO versus LIFO on financial statements and demonstrates how to convert the statements of a firm from a LIFO to a FIFO basis. The chapter identifies the working capital investments created by operating activities and the financial statement effects of credit policy and credit risk. The chapter also shows how to use the financial statement and note information for corporate income taxes to analyze the firm's tax strategies, pensions, and other post-employment benefits obligations using footnote disclosures from **Clorox's** Form 10-K. The chapter provides a discussion of how a firm uses derivative instruments to hedge the risk associated with commodities and with operating transactions denominated in foreign currency, and an online appendix provides specific examples to illustrate hedge accounting.

The end-of-chapter problems and exercises examine revenue and expense recognition for a wide variety of operating activities, including revenues for software, consulting, transportation, construction, manufacturing, and others. End-of-chapter problems also involve **Coca-Cola's** tax notes and pension disclosures and include the integrative **Walmart** case.

Chapter 10—Forecasting Financial Statements. This chapter describes and illustrates the procedures you should use in preparing forecasted financial statements. This material plays a central role in the valuation of companies, discussed throughout Chapters 11 through 14. The chapter begins by giving you an overview of forecasting and the importance of creating integrated and articulated financial statement forecasts. It then demonstrates the preparation of projected financial statements for **Clorox**. The chapter also demonstrates how to get forecasted balance sheets to balance and how to compute implied statements of cash flows from forecasts of balance sheets and income statements. The chapter also discusses forecast shortcuts analysts sometimes take, and when such forecasts are reliable and when they are not. The Forecast and Forecast Development spreadsheets within FSAP provide templates you can use to develop and build your own financial statement forecasts.

Short end-of-chapter problems illustrate techniques for projecting key accounts for firms like **Home Depot**, **Intel**, **Hasbro**, and **Barnes and Noble**, determining the cost structure of firms like **Nucor Steel and Sony**, and dealing with irregular changes in accounts. Longer problems and cases include the integrative **Walmart** case and a classic case involving the projection of financial statements to assist the Massachusetts Stove Company in its strategic decision to add gas stoves to its wood stove line. The problems and cases specify the assumptions you should make to illustrate the preparation procedure. We link and use these longer problems and cases in later chapters that rely on these financial statement forecasts in determining share value estimates for these firms.

Chapter 11—Risk-Adjusted Expected Rates of Return and the Dividends Valuation Approach. Chapters 11 through 14 form a unit in which we demonstrate various approaches to valuing a firm. Chapter 11 focuses on fundamental issues of valuation that you will apply in all of the valuation chapters. This chapter provides you with a discussion of the measurement of the cost of debt and equity capital and the weighted average cost of capital, as well as the dividends-based valuation approach. The chapter also discusses various issues of valuation, including forecasting horizons, projecting long-run continuing dividends, and computing continuing (sometimes called terminal) value. The chapter describes and illustrates the internal consistency in valuing firms using dividends, free cash flows, or earnings. We place particular emphasis on helping you understand that the different approaches to valuation are simply differences in perspective (dividends capture wealth distribution, free cash flows capture wealth realization in cash, and earnings represent wealth creation), and that these approaches should produce internally consistent estimates of value. In this chapter we demonstrate the cost-of-capital measurements and the dividends-based valuation approach for **Clorox**, using the forecasted amounts from **Clorox** financial statements discussed in Chapter 10. The chapter also presents techniques for assessing the sensitivity of value estimates, varying key assumptions such as the cost of capital and long-term growth rate. The chapter also discusses and illustrates the cost-of-capital computations and dividends valuation model computations within the Valuation spreadsheet in FSAP. This spreadsheet takes the forecast amounts from the Forecast spreadsheet and other relevant information and values the firm using the various valuation methods discussed in Chapters 11 through 14.

End-of-chapter material includes the computation of costs of capital across different industries and companies, including **Whirlpool**, **IBM**, and **Target Stores**, as well as short dividends valuation problems for companies like **Royal Dutch Shell**. Cases involve computing costs of capital and dividends-based valuation of **Walmart**, and **Massachusetts Stove Company** from financial statement forecasts developed in Chapter 10's problems and cases.

Chapter 12—Valuation: Cash-Flow Based Approaches. Chapter 12 focuses on valuation using the present value of free cash flows. This chapter distinguishes valuation using free cash flows to all debt and equity stakeholders and valuation using free cash flows to common equity shareholders and the settings where one or the other measure of free cash flows is appropriate for valuation. The chapter also considers and applies techniques for projecting free cash flows and measuring the continuing value after the forecast horizon. The chapter applies both of the discounted free cash flows valuation methods to **Clorox**, demonstrating how to use the forecasted amounts from **Clorox's** projected financial statements (discussed in Chapter 10) to measure the free cash flows to all debt and equity stakeholders, as well as the free cash flows to common equity. The chapter also presents techniques for assessing the sensitivity of value estimates, varying key assumptions such as the costs of capital and long-term growth rates. The chapter also explains and demonstrates the consistency of valuation estimates across different approaches and shows that the dividends approach in Chapter 11 and the free cash flows approaches in Chapter 12 should and do lead to identical value estimates for **Clorox**. The Valuation spreadsheet in FSAP uses projected amounts from the Forecast spreadsheet and other relevant information and values the firm using both of the free cash flows valuation approaches.

Updated shorter problem material asks you to compute free cash flows from financial statement data for companies like **3M** and **Dick's Sporting Goods**. Problem material also includes using free cash flows to value firms in leveraged buyout transactions, such as **May Department Stores**, **Experian Information Solutions**, and **Wedgewood Products**. Longers and cases material include the valuation of **Walmart**, **Coca-Cola**, and **Massachusetts Stove Company**.

The chapter also introduces the Holmes Corporation case, which is an integrated case relevant for Chapters 10 through 13 in which you select forecast assumptions, prepare projected financial statements, and value the firm using the various methods discussed in Chapters 11 through 13. This case can be analyzed in stages with each chapter or as an integrated case after Chapter 13.

Chapter 13—Valuation: Earnings-Based Approaches. Chapter 13 emphasizes the role of accounting earnings in valuation, focusing on valuation methods using the residual income approach. The residual income approach uses the ability of a firm to generate income in excess of the cost of capital as the principal driver of a firm's value in excess of its book value. We apply the residual income valuation method to the forecasted amounts for **Clorox** from Chapter 10. The chapter also demonstrates that the dividends valuation methods, the free cash flows valuation methods, and the residual income valuation methods are consistent with a fundamental valuation approach. In the chapter we explain and demonstrate that these approaches yield identical estimates of value for **Clorox**. The Valuation spreadsheet in FSAP includes valuation models that use the residual income valuation method.

End-of-chapter materials include various problems involving computing residual income across different firms, including **Abbott Labs**, **IBM**, **Target Stores**, **Microsoft**, **Intel**, **Dell**, **Southwest Airlines**, **Kroger**, and **Yum! Brands**. Longer problems also involve the valuation of other firms such as **Steak 'n Shake** in which you are given the needed financial statement information. Longer problems and cases enable you to apply the residual income approach to **Coca-Cola**, **Walmart**, and **Massachusetts Stove Company**, considered in Chapters 10 through 12.

Chapter 14—Valuation: Market-Based Approaches. Chapter 14 demonstrates how to analyze and use the information in market value. In particular, the chapter describes and applies market-based valuation multiples, including the market-to-book ratio, the price-to-earnings ratio, and the price-earnings-growth ratio. The chapter illustrates the theoretical and conceptual approaches to market multiples and contrasts them with the practical approaches to market multiples. The chapter demonstrates how the market-to-book ratio is consistent with residual ROCE valuation and the residual income model discussed in Chapter 13. The chapter also describes the factors that drive market multiples, so you can adjust multiples appropriately to reflect differences in profitability, growth, and risk across comparable firms. An applied analysis demonstrates how you can reverse engineer a firm's stock price to infer the valuation assumptions that the stock market appears to be making. We apply all of these valuation methods to **Clorox**. The chapter concludes with a discussion of the role of market efficiency, as well as striking evidence on using earnings surprises to pick stocks and form portfolios (the Bernard and Thomas post-earnings announcement drift anomaly) as well as using value-to-price ratios to form portfolios (the Frankel and Lee investment strategy), both of which appear to help investors generate significant above-market returns.

End-of-chapter materials include problems involving computing and interpreting market-to-book ratios for pharmaceutical companies, **Enron**, **Coca-Cola**, and **Steak 'n Shake** and the integrative case involving **Walmart**.

Appendices. Appendix A includes the financial statements and notes for **Clorox** used in the illustrations throughout the book. Appendix B, available at www.cengagebrain.com, provides the **Clorox** management's discussion and analysis of operations, which we use when interpreting **Clorox** financial ratios and in our financial statement projections. Appendix C presents the output from FSAP for **Clorox**, including the Data spreadsheet, the Analysis spreadsheet (profitability, growth, and risk ratio analyses), the Forecasts and Forecast Development spreadsheets, and the Valuations spreadsheet. Appendix D, also available online, provides descriptive statistics on 20 financial statement ratios across 48 industries over the years 2010 to 2019.

Chapter Sequence and Structure

Our own experience and discussions with other professors suggest there are various approaches to teaching a financial statement analysis course, each of which works well in particular settings. We have therefore designed this book for flexibility with respect to the

sequence of chapter assignments. The following diagram sets forth the overall structure of the book.

<table>
<tr><td colspan="3">Chapter 1: Overview of Financial Reporting, Financial Statement Analysis, and Valuation</td></tr>
<tr><td colspan="2">Chapter 2: Asset and Liability Valuation and Income Recognition</td><td>Chapter 3: Income Flows versus Cash Flows</td></tr>
<tr><td colspan="2">Chapter 4: Profitability Analysis</td><td>Chapter 5: Risk Analysis</td></tr>
<tr><td colspan="3">Chapter 6: Accounting Quality</td></tr>
<tr><td>Chapter 7: Financing Activities</td><td>Chapter 8: Investing Activities</td><td>Chapter 9: Operating Activities</td></tr>
<tr><td colspan="3">Chapter 10: Forecasting Financial Statements</td></tr>
<tr><td colspan="3">Chapter 11: Risk-Adjusted Expected Rates of Return and the Dividends Valuation Approach</td></tr>
<tr><td colspan="2">Chapter 12: Valuation: Cash-Flow-Based Approaches</td><td>Chapter 13: Valuation: Earnings-Based Approaches</td></tr>
<tr><td colspan="3">Chapter 14: Valuation: Market-Based Approaches</td></tr>
</table>

The chapter sequence follows the six steps in financial statement analysis discussed in Chapter 1. Chapters 2 and 3 provide the conceptual foundation for the three financial statements. Chapters 4 and 5 present tools for analyzing the financial statements. Chapters 6 through 9 describe how to assess the quality of accounting information under U.S. GAAP and IFRS and then examine the accounting for financing, investing, and operating activities. Chapters 10 through 14 focus primarily on forecasting financial statements and valuation.

Some schools teach U.S. GAAP and IFRS topics and financial statement analysis in separate courses. Chapters 6 through 9 are an integrated unit and sufficiently rich for the U.S. GAAP and IFRS course. The remaining chapters will then work well in the financial statement analysis course. Some schools leave the topic of valuation to finance courses. Chapters 1 through 10 will then work well for the accounting prelude to the finance course. Some instructors may wish to begin with forecasting and valuation (Chapters 10 through 14) and then examine data issues that might affect the numbers used in the valuations (Chapters 6 through 9). This textbook is adaptable to other sequences of the various topics.

Overview of the Ancillary Package

The Financial Statement Analysis Package (FSAP) is available on the companion website for this book (www.cengagebrain.com) to all purchasers of the text. The package performs various analytical tasks (common-size and rate of change financial statements, ratio computations, risk indicators such as the Altman-Z score and the Beneish manipulation index), provides a worksheet template for preparing financial statements forecasts, and applies amounts from the financial statement forecasts to valuing a firm using the valuation methods demonstrated in this book. A user manual for FSAP is embedded within FSAP.

New to the 10th edition of *Financial Reporting, Financial Statement Analysis, and Valuation* is MindTap. MindTap is a platform that propels students from memorization to mastery. It gives you complete control of your course, so you can provide engaging content, challenge every learner, and build student confidence. Customize interactive syllabi to emphasize priority topics, then add your own material or notes to the eBook as desired. This outcomes-driven application gives you the tools needed to empower students and boost both understanding and performance.

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James M. Wahlen
Stephen P. Baginski
Mark T. Bradshaw

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BRIEF CONTENTS

CONTENTS

CHAPTER 1

Overview of Financial Reporting, Financial Statement Analysis, and Valuation

LEARNING OBJECTIVES

- **LO 1-1** Describe the six-step analytical framework that is the logical structure for financial statement analysis and valuation. It is the foundation for this book.
- **LO 1-2** Apply tools for assessing the economic characteristics that drive competition in an industry, including (a) Porter's five forces framework, (b) value chain analysis, and (c) an economic attributes framework; then identify the firm's specific strategies for achieving and maintaining competitive advantage within that industry.
- **LO 1-3** Explain the purpose, underlying concepts, and format of the balance sheet, income statement, and statement of cash flows, and the importance of accounting quality.
- **LO 1-4** Obtain an overview of useful tools for analyzing a firm's profitability, growth, and risk, including financial ratios, common-size financial statements, and percentage change financial statements, as well as how to use this information to forecast the future business activities of a firm, and to value a firm.
- **LO 1-5** Consider the role of financial statement analysis and valuation in an efficient capital market, and review empirical evidence on the association between changes in earnings and changes in stock prices.
- **LO 1-6** Become familiar with sources of financial information available for publicly held firms.

Chapter Overview

This book has three principal objectives, each designed to help you gain important knowledge and skills necessary for financial statement analysis and valuation:

1. Chapters 1, 2, 3, 4 and 5: To demonstrate how you can analyze the economics of an industry, a firm's strategy, and its financial statements, gaining important insights about the firm's profitability, growth, and risk.
2. Chapters 6, 7, 8 and 9: To deepen your understanding of the accounting principles and methods under U.S. Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) that firms use to measure and report their financing, investing, and operating activities in a set of financial statements and, if necessary, make adjustments to reported amounts to increase their relevance and reliability.
3. Chapters 10, 11, 12, 13 and 14: To demonstrate how you can use financial statement information to build forecasts of future financial statements and then use the expected future amounts of earnings, cash flows, and dividends to value firms.

Financial statements play a central role in the analysis and valuation of a firm. Financial statement analysis is an exciting and rewarding activity, particularly when the objective is to assess whether the market is over- or undervaluing a firm's shares. This text demonstrates and explains many tools and techniques that you can use to analyze the fundamental characteristics of

a firm—such as its business strategies, competitive advantages, product markets, and operating, investing, and financing decisions—and then use this information to make informed decisions about the value of the firm.

Security analysts are professionals whose primary objective is to value equity securities issued by firms. Security analysts collect and analyze a wide array of information from financial statements and other sources to evaluate a firm's current and past performance, predict its future performance, and then estimate the value of the firm's shares. Comparisons of thoughtful and intelligent estimates of the firm's share value with the market price for the shares provide the bases for making good investment decisions.

In addition to estimating firm value, you can apply the tools of effective financial statement analysis in many other important decision-making settings, including the following:

- Managing a firm and communicating results to investors, creditors, employees, and other stakeholders.
- Assigning credit ratings or extending short-term credit (for example, a bank loan used to finance accounts receivable or inventories) or long-term credit (for example, a bank loan or public bond issue used to finance the acquisition of property, plant, or equipment).
- Assessing the operating performance and financial health of a supplier, customer, competitor, or potential employer.
- Evaluating firms for potential acquisitions, mergers, or divestitures.
- Valuing the initial public offering of a firm's shares.
- Consulting with a firm and offering helpful strategic advice.
- Forming a judgment in a lawsuit about damages sustained.
- Valuing firms for estate distributions and legal disputes
- Valuing subsidiaries for impairment testing
- Assessing the extent of auditing needed to form an opinion about a client's financial statements.

Overview of Financial Statement Analysis

LO 1-1

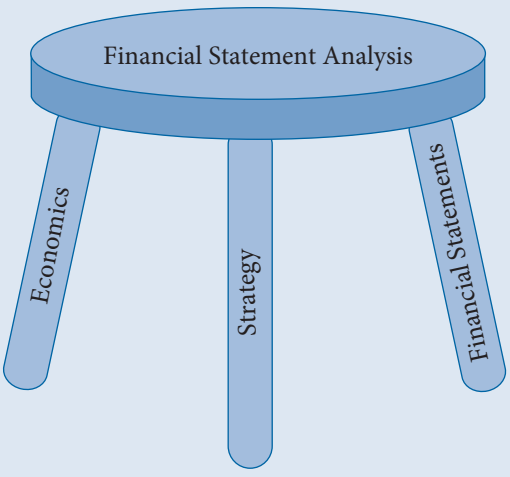
Describe the six-step analytical framework that is the logical structure for financial statement analysis and valuation. It is the foundation for this book.

We view effective financial statement analysis as a three-legged stool, as Exhibit 1.1 depicts. The three legs of the stool in the figure represent effective analysis based on the following:

1. Identifying the *economic characteristics* of the *industries* in which a firm competes and mapping those characteristics into determinants of profitability, growth, and risk.

Exhibit 1.1

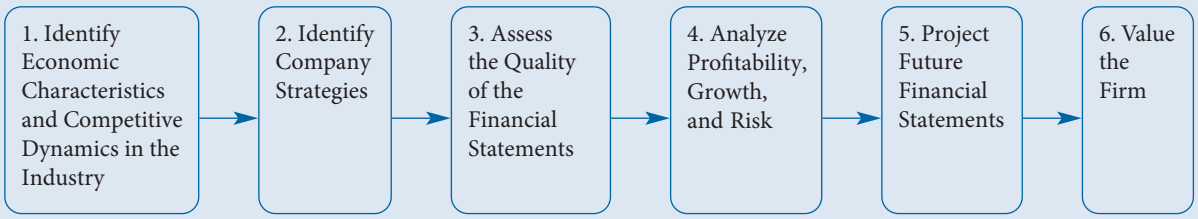
Building Blocks for Financial Statement Analysis



2. Describing the *strategies* that a *firm* pursues to differentiate itself from competitors as a basis for evaluating a firm's competitive advantages, the sustainability and potential growth of a firm's earnings, and its risks.
3. Evaluating the firm's *financial statements*, including the accounting concepts and methods that underlie them and the quality of the information they provide.

Exhibit 1.2

Six Interrelated Sequential Steps in Financial Statement Analysis



Our approach to effective analysis of financial statements for valuation and many other decisions involves six interrelated sequential steps, depicted in Exhibit 1.2.

1. **Identify the economic characteristics and competitive dynamics of the industry in which the firm participates.** What dynamic forces drive competition in the industry? For example, does the industry include a large number of firms selling similar products, such as grocery stores, or only a small number of firms selling unique products, such as pharmaceutical companies? Does technological change play an important role in maintaining a competitive advantage, as in computer software? Understanding the competitive forces in the firm's industry in the first step establishes the economic foundation and context for the remaining steps in the process.
2. **Identify strategies the firm pursues to gain and sustain a competitive advantage.** What business model is the firm executing to be different and successful in its industry? Does the firm have competitive advantages? If so, how sustainable are they? Are its products designed to meet the needs of specific market segments, such as ethnic or health foods, or are they intended for a broader consumer market, such as typical grocery stores and family restaurants? Has the firm integrated backward into producing raw materials for its products, such as a steel company that owns iron ore mines? Is the firm diversified across products, geographic markets, or industries? Understanding the firm's strategy and the sustainability of its competitive advantages provides the necessary firm-specific context to evaluate the firm's accounting information, assess profitability, growth, and risk, and project the firm's future business activities.
3. **Obtain all of the information available from a firm's financial statements, and assess the quality of that information. If necessary, adjust the financial statements to enhance reliability and comparability.** To be informative, the firm's financial statements should provide a complete and faithful representation of the firm's economic performance, financial position, and risk, in accordance with U.S. GAAP or IFRS. Do earnings include nonrecurring gains or losses, such as a write-down of goodwill, which you should evaluate differently from recurring components of earnings? Has the firm structured transactions or commercial arrangements so as to avoid recognizing certain assets or liabilities on the balance sheet? Has the firm selected certain accounting methods simply to make the firm appear more profitable or less risky than economic conditions otherwise suggest? It is essential to understand the *quality* of the firm's accounting information to effectively analyze the firm's profitability, growth, and risk and to project its future balance sheets, income statements, and cash flows.

4. **Analyze the current profitability, growth, and risk of the firm using information in the financial statements.** Most financial analysts assess the profitability of a firm relative to the risks involved. What rate of return is the firm generating from the use of its assets? What rate of return is the firm generating for its common equity shareholders? Is the firm's profit margin increasing or decreasing over time? Are revenues and profits growing faster or slower than those of its key competitors? Are rates of return and profit margins higher or lower than those of its key competitors? How risky is the firm because of leverage in its capital structure? Ratios that reflect relations among particular items in the financial statements are informative tools you can use to analyze profitability, growth, and risk. By understanding the firm's current and past profitability, growth, and risk, you will establish important information you will use in projecting the firm's future profitability, growth, and risk and in valuing its shares.
5. **Prepare forecasted financial statements.** What will be the firm's future operating, investing, and financing activities? What will be the firm's future resources, obligations, investments, cash flows, and earnings? What will be the likely future profitability, growth, and risk and, in turn, the likely future returns from investing in the company? Forecasted financial statements that project the firm's future operating, investing, and financing activities provide the basis for projecting future profitability, growth, and risk, which provide the basis for financial decision making, including valuation.
6. **Value the firm.** What is the firm worth? Financial analysts use their estimates of share value to make recommendations for buying, selling, or holding the equity securities of firms when market price is too low, too high, or about right. Similarly, an investment bank that underwrites the initial public offering of a firm's common stock must set the initial offer price. Also, an analyst in a corporation considering whether to acquire a company (or divest a subsidiary or division) must assess a reasonable range of values to bid to acquire the target (or to expect to receive).

These six steps provide a logical, powerful sequence that will enable you to address very important and difficult questions, such as how to analyze and value a firm. We use these six steps as the analytical framework for you to follow as you develop your skills in analyzing and valuing companies. This chapter introduces each step. Subsequent chapters develop the important concepts and tools for each step in considerably more depth.

How Do the Six Steps Relate to Share Pricing in the Capital Markets?

The extent to which market prices fully reflect the implications of accounting information depends on four links:

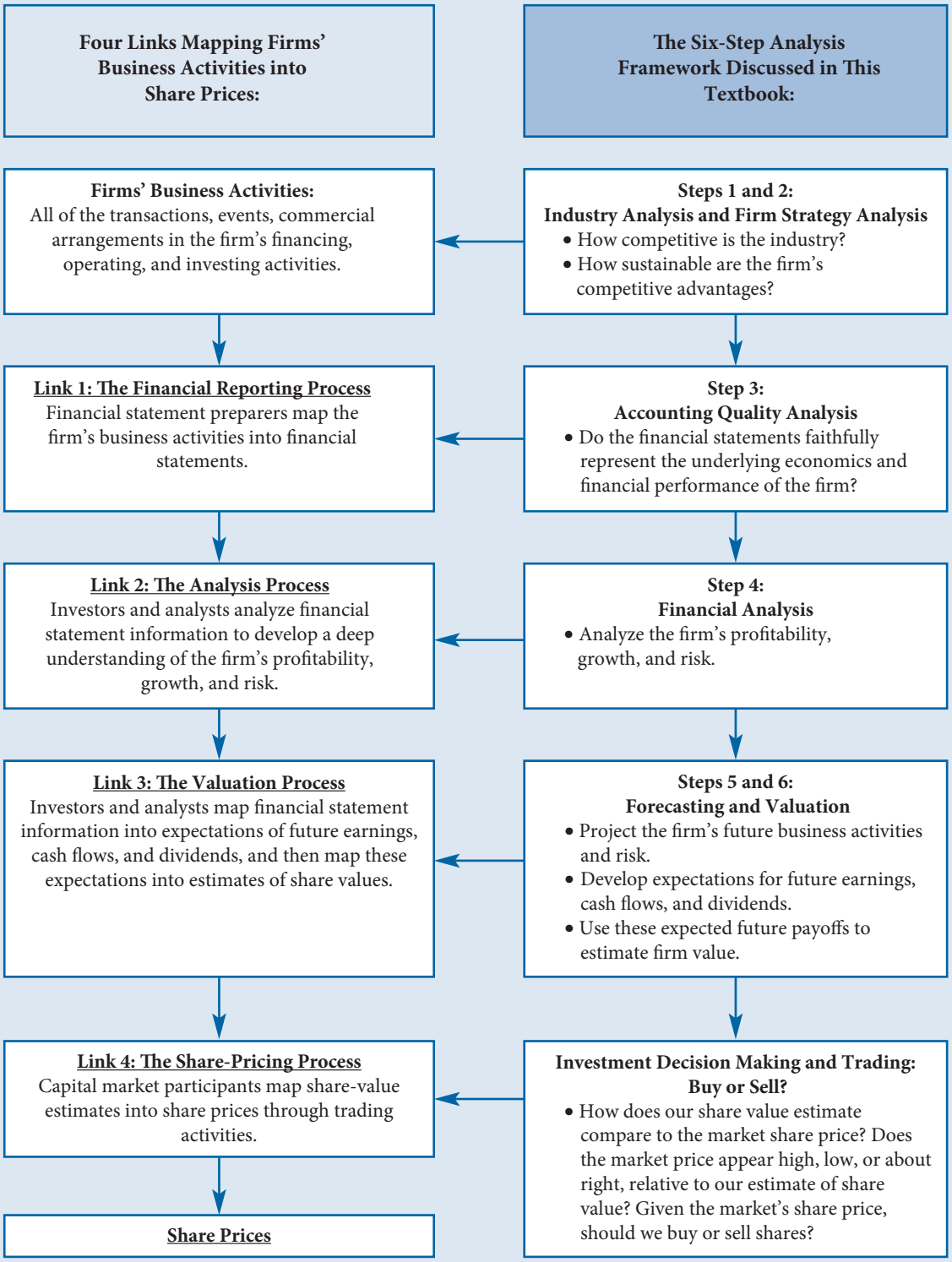
1. the accounting system mapping a firm's transactions and events into accounting fundamentals, such as earnings, cash flows, and book value of equity, reported on financial statements;
2. analysts and investors analyzing financial statement information to get a deep understanding of the firm's profitability, growth, and risk;
3. analysts and investors mapping accounting fundamentals into expectations of future earnings and cash flows, and then into estimates of share value; and
4. trading activities mapping share value estimates into stock prices.

Down the left-hand side of Exhibit 1.3 we illustrate these four links. In parallel, down the right-hand side, we illustrate how our six-step analysis and valuation process captures each of those four links.

Beginning in the upper left, the process through which firms create shareholder value is driven by the firm's business activities. The firm executes its strategy to compete in its industry through its financing, investing, and operating activities. Hopefully, these activities enable the firm to create and sustain competitive advantage within the industry, and create shareholder value. On the right side, we illustrate how Steps 1 and 2 of our six-step process focus on analyzing

Exhibit 1.3

Linking the Share-Pricing Process to the Six-Step Analysis Framework



the factors and dynamics of competition within the industry, and then analyzing the firm's competitive strategy and the sustainability of the firm's competitive advantages (if any).

The first link in the share-pricing process involves financial reporting. Through the financial reporting process, the firm's accountants map the firm's business activities to financial statements. The balance sheets, income statements, statements of cash flows, and notes provide the firm a channel of credible communication through which the firm can report fundamentally important information to stakeholders about the firm's financial position and performance. On the right side, in Step 3 of the six-step process, we analyze the accounting information firms report in their financial statements and assess the quality of that information. To what extent do the balance sheets, income statements, cash flows, and notes faithfully represent the firm's underlying financial position and performance?

The second link in the share-pricing process involves financial analysis. In this link, investors and analysts analyze the information in the firm's financial statements to develop a deeper understanding of the firm's profitability, growth, and risk. These are the fundamental drivers of share value. On the right side, in Step 4, we analyze the firm's financial statements using a wide variety of ratios to analyze the firm's profitability, growth, and risk. We analyze how profitability, growth, and risk have changed over time, and how they compare to key competitors in the industry.

The third link in the share-pricing process involves forecasting and valuation. In this link, investors and analysts map the firm's financial statements into expectations of future earnings, cash flows, and dividends, and then map those expectations into share-value estimates. In this link, for example, an analyst or an investor would project the firm's future earnings and cash flows, evaluate the firm's risk, and determine a reasonable range of share values. On the right side, in Steps 5 and 6, we project the firm's future business activities and measure the expected future outcomes with projected future balance sheets, income statements, and cash flows. Next, we use our projected future financial statements to determine expected future earnings, cash flows, and dividends, and then use those expectations to estimate share value.

In the fourth link in the market's share-pricing process, analysts and investors map their share value estimates into share prices through buying and selling shares. When analysts and investors buy shares at prices that they believe are below the share's fundamental value, the demand for shares should drive price up, toward fundamental value. Similarly, when analysts and investors sell shares at prices that they believe are high relative to fundamental value, that trading should drive prices down. On the bottom right side of the exhibit, we illustrate the culmination of our six-step analysis and valuation process—buying shares at prices that we believe are below fundamental value, and selling shares for prices that we believe are above fundamental value—the old adage, "buy low, sell high."

Note, the four links mapping firms' activities into share prices are not always tight. For example, the financial reporting process and accounting information may not capture all past transactions and events that are value-relevant, and companies differ in the extent to which they face accounting measurement challenges. As such, reported financial statement information may not fully faithfully represent the firm's profitability, growth, and risk (Links 1 and 2). Accounting fundamentals seldom explicitly capture the expected *future* transactions and events that drive firm value, and companies differ in the richness of information available for forecasting these future outcomes (Link 3). Finally, market sentiment, noise trading, and market frictions can lead to temporary departures of price from value even in highly efficient markets, as seen during bubble periods (Link 4). Therefore, the six-step analysis and valuation process enables us to evaluate and analyze the tightness of the four links, and hopefully identify shares that are temporarily overpriced or underpriced.

Introducing Clorox

Throughout this book, we use financial statements, notes, and other information provided by The **Clorox Company** (**Clorox**; ticker symbol CLX) to illustrate and apply the six-step analysis and valuation framework. We use **Clorox** as a "golden-thread" case company throughout the book for three reasons. First, most of you reading this text are likely already familiar with **Clorox**:

they are a leading multinational manufacturer of consumer and professional products, including well-known products such as **Clorox** bleach, Pine-Sol cleaners, Liquid-Plumr drain cleaners, Fresh Step cat litter, Glad bags, Kingsford charcoal, Brita water filters, and numerous vitamins and supplements. More than 80% of the company's brands are the number one or number two product based on market share. Many of the company's products experienced increased demand during the COVID-19 pandemic that began in 2020 (such as cleaning, pet care, and grilling products). The company distributes its products through various retailers globally. Walmart is the single largest customer, representing approximately 25% of the company's consolidated sales; the company's five largest customers account for almost half of annual sales. In 2020, international sales represented 15.2% of consolidated sales and 9.8% of earnings before taxes.

Our second reason for using **Clorox** as an illustrative case throughout the book is that **Clorox** operates a fairly basic business—manufacturing, marketing, and distributing well-recognized consumer products. This business model makes it more straightforward for us to understand the industry, **Clorox's** strategy, and its accounting information. Third, **Clorox** is an interesting business in light of the COVID-19 pandemic. The fundamental shifts in human behavior surrounding the associated quarantines had a unique effect on some of the company's products, such as cleaning products (amid concerns over infection), grilling products (amid increased at-home meal preparation), pet products (amid increased pet adoptions), and vitamins and supplements (amid increased focus on personal health). These changes offer interesting challenges when we forecast future results (in Chapter 10) in an effort to value the firm.

At the end of fiscal 2020, **Clorox's** shares were trading at a price of $217.19. Is that share price fair? Or is it too high or too low? At this price, should we buy or sell CLX shares? At the end of this book, after carefully applying all six steps of the analysis and valuation process, we will have a good answer to this difficult but very interesting question.

Appendix A at the end of the book includes the fiscal year 2020 financial statements and notes for **Clorox**, as well as statements by management and the audit opinion of the independent accountant regarding these financial statements. Appendix B (which can be found online at the book's companion website at www.cengagebrain.com) includes excerpts from management's discussion and analysis of **Clorox's** business strategy; it also offers explanations for changes in **Clorox's** profitability and risk over time.

Appendix C at the end of the book presents the output of the FSAP (Financial Statements Analysis Package), which is the financial statement analysis software that accompanies this book. The FSAP model is an Excel add-in that enables you to enter financial statement data, after which the model computes a wide array of profitability, growth, and risk ratios and creates templates for forecasting future financial statements and estimating a variety of valuation models. Appendix C presents the use of FSAP for **Clorox** including profitability and risk ratios, projected future financial statements, and valuation. FSAP is available at www.cengagebrain.com. You can use FSAP in your analysis for many of the problems and cases in this book. (We highlight FSAP applications with the FSAP icon in the margin of the text). FSAP contains a user manual with guides to assist you. Appendix D (also found online at the book's companion website at www.cengagebrain.com) presents tables of descriptive statistics on a wide array of financial ratios across 48 industries.

Step 1: Identify the Industry Economic Characteristics

LO 1-2

Apply tools for assessing the economic characteristics that drive competition in an industry, including (a) Porter's five forces framework, (b) value chain analysis, and (c) an economic attributes framework; then identify the firm's specific strategies for achieving and maintaining competitive advantage within that industry.

The economic characteristics and competitive dynamics of an industry play a key role in influencing the strategies employed by the firms in the industry; their profitability, growth, and risk factors; and therefore the types of financial statement relations you should expect to observe. Consider, for example, the financial statement data for representative firms in four different industries shown in Exhibit 1.4. This exhibit expresses all items on the balance sheets and income statements as percentages of revenue. How do the economic characteristics of these industries impact the financial statement data in Exhibit 1.4?

Grocery Store Chain

The products of one grocery store chain are difficult to differentiate from similar products of other grocery store chains. In addition, low barriers to entry exist in the grocery store industry; an entrant needs primarily retail space and access to food products distributors. Thus, extensive competition and nondifferentiated products result in relatively low profitability, which can be measured by the ratio of net income to sales (3.5% in this case). For each dollar of revenue, a typical grocery store generates a profit of only 3.5 cents. Grocery stores, however, need relatively few assets to generate sales (34.2 cents in assets for each dollar of sales). The assets are described as turning over 2.9 times (100.0%/34.2%) per year. (Each dollar in assets generated, on average, $2.90 of revenues.) Thus, during a one-year period, the grocery store earns 10.15 cents (3.5% × 2.9) for each dollar invested in assets.

Pharmaceutical Company

The barriers to entry in the pharmaceutical industry are much higher than for grocery stores. Pharmaceutical firms must invest considerable amounts in research and development to create new drugs. The research and development process is lengthy, with highly uncertain outcomes. Very few projects result in successful development of new drugs. Once new drugs have been developed, they must then undergo a lengthy government testing and approval process. If the drugs are approved, firms receive patents that give them exclusive rights to manufacture and sell the drugs for a number of years. These high entry barriers permit pharmaceutical firms to realize much higher profit margins compared to the profit margins of grocery stores. Exhibit 1.4 indicates that the pharmaceutical firm generated a profit margin of 12.1%, more than three times that reported by the grocery store chain. Pharmaceutical firms, however, face product liability risks as well as the risk that competitors will develop superior drugs that make a particular firm's drug offerings obsolete. Because of these business risks, pharmaceutical firms tend to take on relatively small amounts of debt financing as compared to firms in industries such as electric utilities and commercial banks.

Exhibit 1.4

Common-Size Financial Statement Data for Four Firms (all figures as a percentage of revenue)

	Grocery Store Chain	Pharmaceutical Company	Electric Utility	Commercial Bank
BALANCE SHEET				
Cash and marketable securities	0.7%	11.0%	1.5%	261.9%
Accounts and notes receivable	0.7	18.0	7.8	733.5
Inventories	8.7	17.0	4.5	—
Property, plant, and equipment, net	22.2	28.7	159.0	18.1
Other assets	1.9	72.8	29.2	122.6
Total Assets	**34.2%**	**147.5%**	**202.0%**	**1,136.1%**
Current liabilities	7.7%	30.8%	14.9%	936.9%
Long-term debt	7.6	12.7	130.8	71.5
Other noncurrent liabilities	2.6	24.6	1.8	27.2
Shareholders' equity	16.3	79.4	54.5	100.5
Total Liabilities and Shareholders' Equity	**34.2%**	**147.5%**	**202.0%**	**1,136.1%**

(*Continued*)

Exhibit 1.4 (Continued)

	Grocery Store Chain	Pharmaceutical Company	Electric Utility	Commercial Bank
INCOME STATEMENT				
Revenue	100.0%	100.0%	100.0%	100.0%
Cost of goods sold	(74.1)	(31.6)	(79.7)	—
Operating expenses	(19.7)	(37.1)	—	(41.8)
Research and development	—	(10.1)	—	—
Interest expense	(0.5)	(3.1)	(4.6)	(36.6)
Income taxes	(2.2)	(6.0)	(5.2)	(8.6)
Net Income	**3.5%**	**12.1%**	**10.5%**	**13.0%**

Electric Utility

The principal assets of an electric utility are its power-generating plants. Thus, property, plant, and equipment dominate the balance sheet. Because of the large investments required by such assets, electric utility firms generally demanded a monopoly position in a particular locale, and until recent years, usually obtained it. Government regulators permitted this monopoly position but set the rates that utilities charged customers for electric services. Thus, electric utilities have traditionally realized relatively high profit margins (10.5%) to offset their relatively low total asset turnovers (0.495 = 100.0%/202.0%). The monopoly position and regulatory protection reduced the risk of financial failure and permitted electric utilities to invest large amounts of capital in long-lived assets and take on relatively high proportions of debt in their capital structures. The economic characteristics of electric utilities have changed dramatically in recent years with gradual elimination of monopoly positions and the introduction of competition that affects rates, reducing profit margins considerably.

Commercial Bank

Through their borrowing and lending activities, commercial banks intermediate the supply and demand for financial capital. The principal assets of commercial banks are investments in financial securities and loans to businesses and individuals. The principal financing for commercial banks comes from customers' deposits and short-term borrowings. Because customers can generally withdraw deposits at any time, commercial banks invest in securities that they can quickly convert into cash if necessary. Because money is a commodity, one would expect a commercial bank to realize a small profit margin on the revenue it earns from lending (interest revenue) over the price it pays for its borrowed funds (interest expense). The profit margins on lending are indeed relatively small. In contrast, the 13.0% margin for the commercial bank shown in Exhibit 1.4 reflects the much higher profit margins it generates from offering fee-based financial services such as structuring financing packages for businesses, guaranteeing financial commitments of business customers, and arranging mergers and acquisitions. Note that the assets of this commercial bank turn over just 0.09 (100.0%/1,136.1%) times per year, reflecting the net effect of interest revenues and fees from investments and loans of 6%–8% per year, which requires a large investment in financial assets.

Tools for Studying Industry Economics

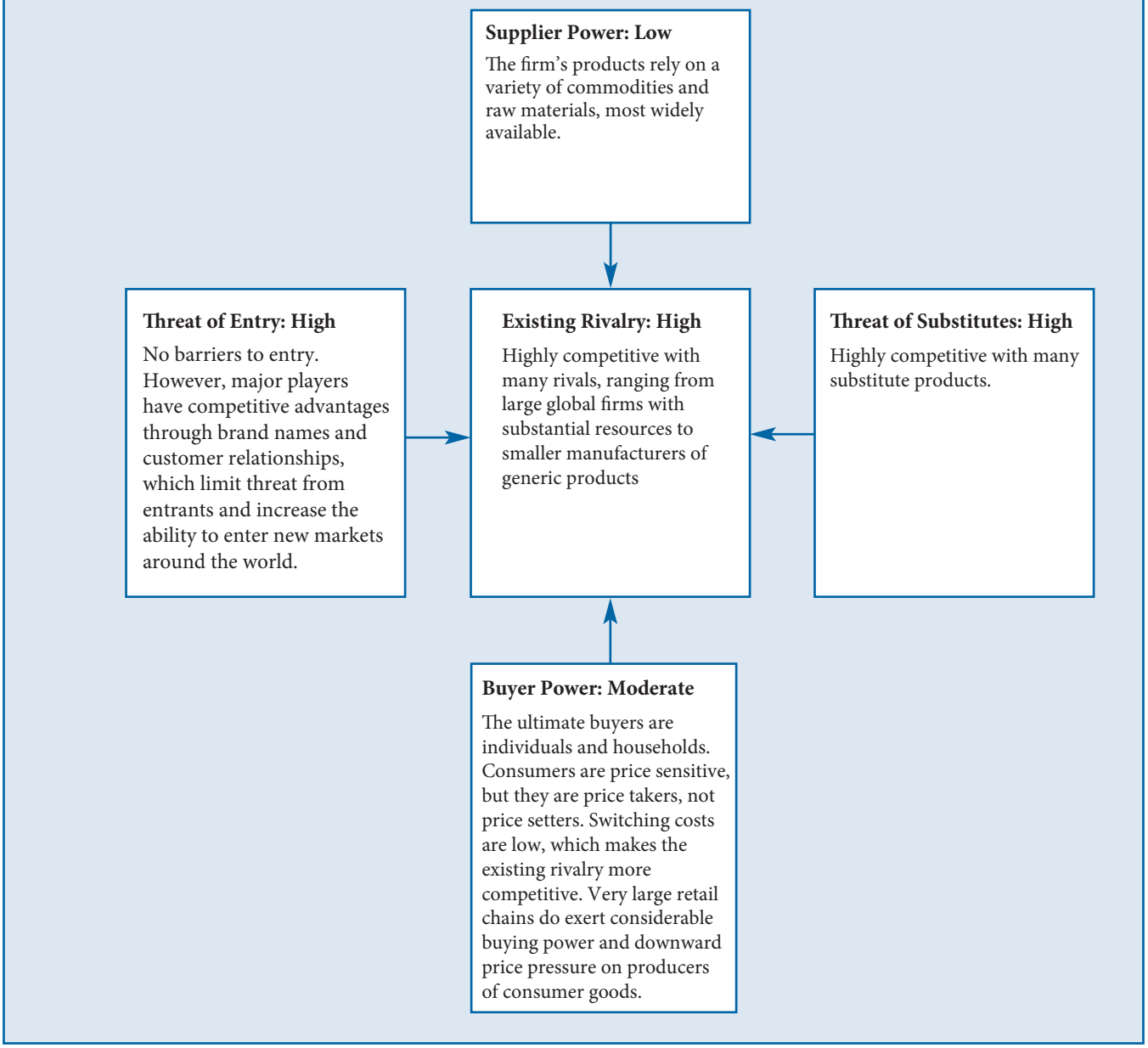
Clorox competes in the consumer products industry. We will begin our analysis of the forces of competition within this industry by using the Porter's five forces framework. We will augment that framework by also evaluating the industry's value chain and by examining an economic attributes framework. The microeconomics literature suggests other analytical frameworks for industry analysis as well.

Porter's Five Forces Framework

Porter suggests that five forces influence the level of competition and the profitability of firms in an industry.[1] Three of the forces—rivalry among existing firms, potential entry, and substitutes—represent horizontal competition among current or potential future firms in the industry and closely related products and services. The other two forces—buyer power and supplier power—depict vertical competition in the value chain, from the suppliers through the existing rivals to the buyers. We discuss each of these forces next, summarized in Exhibit 1.5, and illustrate them within the consumer products industry.

Exhibit 1.5

Porter's Five Forces in the Consumer Products Industry



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

1. **Rivalry among Existing Firms.** Direct rivalry among existing firms is often the first order of competition in an industry. Some industries can be characterized by concentrated rivalry (such as a monopoly, a duopoly, or an oligopoly), whereas others have diffuse rivalry across many firms. Economists often assess the level of competition with industry concentration ratios, such as a four-firm concentration index that measures the proportion of industry sales controlled by the four largest competitors. Economics teaches that in general, the greater the industry concentration, the lower the competition between existing rivals and thus the more profitable the firms will be.

   Clorox is among a group of major firms providing a mix of consumer products. Most of its major competitors are significantly larger and more diversified, such as **Procter & Gamble**, **Colgate-Palmolive**, **Johnson & Johnson**, **Unilever**, **Kimberly-Clark**, and **Reckitt Benckiser Group** (which makes Lysol). However, other competitors include store-brand products of retail chains such as Costco, Target, and numerous others. Growth opportunities exist through product innovation, expansion of markets, and fierce branding efforts. Thus, we characterize industry rivalry as high.
2. **Threat of Entrants.** How easily can firms enter an industry? Are there entry barriers such as large capital investment, technological expertise, patents or other legal rights, or regulations that inhibit new entrants? Do the existing rivals have distinct competitive advantages (such as brand names) that will make it difficult for other firms to enter and compete successfully? If so, firms in the industry will likely generate higher profits than if entrants can enter the industry easily and drive down excess profits by competing on price, quality, or other features valued by customers.

   The consumer goods industry has no significant barriers to entry. This is evident by the numerous competing products across most product lines. To be sure, the existing major players within the consumer goods industry have competitive advantages that reduce the threat of new entrants. Brand recognition by companies such as **Clorox**, **Procter & Gamble**, **Colgate-Palmolive** and others reduces the threat of potential new competitors. Although brand marketing within the existing competitors is intense, changing consumer preferences and receptiveness to new product claims creates a constant set of threats to existing products and market shares. Because it is easy for a firm (including the existing major players) to enter a market and compete, we characterize this industry as having a high degree of competition from potential entrants.
3. **Threat of Substitutes.** How easily can customers switch to substitute products or services? How likely are they to switch? When there are close substitutes, competition increases and profitability diminishes (for example, between restaurants and grocery stores for certain types of prepared foods). Unique products with few substitutes, such as certain prescription medications, enhance profitability.

   In the consumer goods industry, consumers can easily substitute one brand of consumer product with a competing product that serves the same purposes (e.g., one brand of bleach of a different brand). This enhances product rivalry rather than substitution, per se. Substitution (in line with Porter's description) occurs when consumers substitute a very different product or service (for example, substituting vinegar or lye for bleach). Because consumers can substitute numerous household applications for products from the consumer goods industry, we deem the threat of substitutes to be high.
4. **Buyer Power.** Within an industry, buyers are extremely important because they purchase the goods and services produced by the industry. However, when analyzing the degree of buyer power, we must examine the relative number of buyers and sellers in a particular industry and the leverage buyers can exert with respect to price and other terms of trade. Are the buyers price takers or price setters? If there are many sellers of a product and a small number of buyers making very large purchase decisions, such as basic military equipment bought by governments, or automobile parts purchased by automobile manufacturers, or consumer goods purchased by huge retail chains like **Walmart**, the buyer can exert significant downward pressure on prices and therefore on the profitability of suppliers. If there are few sellers and many buyers, as with product sales to individual consumers, the buyers can exert less bargaining power.

Buyer power also relates to buyers' price sensitivity and the elasticity of demand. How sensitive are consumers to product prices? If an industry's products are very similar across competitors, consumers may switch to the lowest-priced offering. If consumers view a particular firm's products as unique within an industry, however, they will be less sensitive to price differences. Another dimension of price sensitivity is the relative cost of a product. Consumers are less sensitive to the prices of products that represent small expenditures, such as beverages or household cleaners, than they are to higher-priced products, such as automobiles or homes. However, even though individual consumers may switch easily between brands or between higher- or lower-priced products, they make individual rather than large collective buying decisions, so they are likely to continue to be price takers (not price setters). The ease of switching does not make the buyer powerful; instead, it increases the level of competition between the rivals.

In the consumer products industry, buyer power is relatively low. Although there are many rivals and many substitutes creating a very competitive environment, and although switching costs are low, individual consumers buying most products tend to be price takers rather than price setters. However, certain buyers (for example, large retail chains such as Walmart) make such large purchases on a national level that they can exert significant buyer power.

5. **Supplier Power.** A similar set of factors with respect to leverage in negotiating prices applies on the supply side as well. If an industry is comprised of a large number of potential buyers of inputs that are produced by relatively few suppliers, the suppliers will have greater power in setting prices and generating profits. For example, many firms assemble and sell personal computers and laptops, but these firms face significant supplier power because **Microsoft** is a dominant supplier of operating systems and application software and **Intel** is a dominant supplier of microprocessors. By contrast, if an industry is characterized by many similar suppliers (such as airlines or commercial banks), the suppliers will have limited power to set prices.

   Consumer goods firms rely on numerous commodities and raw materials to manufacture products. Some firms impose minimum standards for ethics and societal issues for their suppliers, which can limit available sources. Products that require chemicals associated with potential environmental issues impose costs and risks on manufacturers of related products, such as governmental compliance. Supply chain disruption such as those during the COVID-19 pandemic increase the bargaining power of suppliers. However, generally, suppliers of commodities and other raw materials cannot exert much power over large consumer goods firms.

   In summary:

   - Competition in the consumer goods industry is intense among direct rivals, and there exists a continual threat of substitute products and new entrants because there are no barriers to entry.
   - The industry faces moderate buyer power, not due to individual consumers but due to some buyer power among large retail chains.
   - The industry faces low supplier power because some inputs are commodities, while others are widely available.

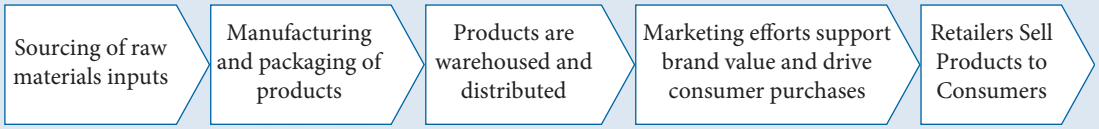
Value Chain Analysis

The value chain for an industry sets forth the sequence or chain of activities involved in the creation, manufacture, distribution, and sale of its products and services. To the extent prices are available for products or services at each stage in the value chain, you can determine where value is added within an industry. You also can use the value chain to identify the strategic positioning of a particular firm within the industry.

As an example, Exhibit 1.6 portrays the value chain for the consumer products industry. The variety of consumer products dictates the variety of raw materials required. For example, the inputs for manufacturing cleaning products differ significantly from those required for water filtration systems or vitamins and supplements. Nevertheless, the establishment of supplier

Exhibit 1.6

Value Chain for the Consumer Products Industry



relationships and inbound receiving logistics is the beginning of the value chain. Because many of the inputs are commodities or near-commodities, it is difficult for suppliers to add or capture a lot of value in this value chain.

The next step is the transformation of raw materials and labor into consumer products. This requires exacting standards to ensure consistency of products, not only for the product itself, but for the packaging and labeling of products, all of which are important to ultimate consumers. Manufacturing creates value to the extent that consumer products possess unique features valued by consumers.

After manufacturing, the firm must manage warehousing and distribution of products to channel partners and end users, either retailers or direct consumers. Shipping, packaging and distribution processes are primarily logistical production activities and do not require sophisticated or advanced technology. Accordingly, these processes do not add the majority of the value in the chain. Instead, the lion's share of the value added occurs in the retail sales, where consumers pay premiums for branded products. Although we show the final step in the value chain to be marketing, this step likely occurs continuously because it is so crucial for products in intensely competitive markets.

Refer to Item 1, "Business," in the 2020 Form 10-K for **Clorox** for a description of **Clorox's** business segments. **Clorox** operates numerous strategic business units that are aggregated into four reportable segments: (1) health and wellness; (2) household; (3) lifestyle; and (4) international. The health and wellness segment is the largest in terms of revenues, followed by the household, lifestyle, and international segments. Not surprisingly, the largest segment hosts some of the most valuable brands in its portfolio (including **Clorox** bleach, Formula 409 cleaner, and Hidden Valley food brands).

Economic Attributes Framework

The following framework can also be useful in studying the economic attributes of an industry.

1. **Demand**
   - Are customers highly price-sensitive, as in the case of automobiles, or are they relatively insensitive, as in the case of soft drinks?
   - Is demand growing rapidly, as in the case of long-term health care, or is the industry relatively mature, as in the case of grocery stores?
   - Does demand move with the economic cycle, as in the case of construction of new homes and offices, or is demand insensitive to business cycles, as in the case of food products and medical care?
   - Is demand seasonal, as in the case of summer clothing and ski equipment, or is it stable throughout the year, as in the case of most grocery store products?
2. **Supply**
   - Are many suppliers offering similar products, or are a few suppliers offering unique products?
   - Are there high barriers to entry, as in the case of oil and gas, or can new entrants gain easy access, as in the case of fast food restaurants or coffee shops?
   - Are there high barriers to exit, as in the case of mining companies or nuclear power plants that face substantial environment cleanup costs?

3. **Manufacturing**
   - Is the manufacturing process capital-intensive (e.g., electric power generation), labor-intensive (e.g., advertising, investment banking, auditing, and other professional services), or a combination of the two (e.g., automobile manufacturing, hospitals, and airlines)?
   - Is the manufacturing process complex with low tolerance for error, as in the case of heart pacemakers and microchips, or relatively simple with ranges of products that are of acceptable quality, as in the case of apparel and nonmechanized toys?
4. **Marketing**
   - Is the product promoted to other businesses, in which case a sales staff plays a key role, or is it marketed to consumers, so that advertising, brand names, and retail distribution locations serve as principal promotion mechanisms?
   - Does steady demand pull products through distribution channels, such as branded consumer goods, or must firms continually create demand, such as fashion apparel and movies?
5. **Investing and Financing**
   - Are the assets of firms in the industry relatively short term, as in the case of commercial banks, which require short-term sources of funds to finance them? Or are assets relatively long term, as in the case of electric utilities, which require primarily long-term financing?
   - Is there relatively little risk in the assets of firms in the industry, such as from technological obsolescence, so that firms can carry high proportions of debt financing? Alternatively, are there high risks resulting from short product life cycles or product liability concerns that dictate low debt and high shareholders' equity financing?
   - Is the industry relatively profitable and mature, generating more cash flow from operations than is needed for acquisitions of property, plant, and equipment? Alternatively, is the industry growing rapidly and in need of external financing?

Exhibit 1.7 summarizes the economic attributes of the consumer goods industry.

Exhibit 1.7

Economic Attributes of the Consumer Products Industry

Demand
- Demand is relatively insensitive to price.
- There is low growth in the United States, but more rapid growth opportunities are available in other countries.
- Demand is not cyclical and only slightly seasonal for some products.

Supply
- Suppliers are numerous given varied consumer products.
- Many input materials are commodities such as agricultural products, chemicals, resin, sodium hypochlorite, and others.

Manufacturing
- The manufacturing, packaging, and distribution processes are primarily logistical, and not technologically complex or capital-intensive.

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

Investing and Financing
- Manufacturing is not highly capital-intensive but requires some long-term financing.
- Retail sales to consumers, through both traditional and online retailers, requires continuous investments in brand value and other promotional activities.

Step 2: Identify the Company Strategies

Within an industry, firms must strive to establish business strategies to make themselves different from competitors. When a firm creates a strategy that successfully differentiates itself within its industry, it establishes a competitive advantage. The most successful firms create competitive advantages that are sustainable over a long period of time. An industry's economic characteristics affect the flexibility that firms have in designing and executing those strategies to create sustainable competitive advantages. For example, **Clorox's** size, brand name, portfolio, and access to distribution channels give it sustainable competitive advantages for many individual products. Similarly, the reputation for quality family entertainment provides **Disney** with a sustainable advantage, whereas a reputation for low prices across a wide range of inventory for consumers generates advantages for **Walmart**.

In many industries, however, products and ideas quickly get copied. Consider the following examples: cell phones, tablets, and computer hardware; chicken, pizza, and hamburger restaurant chains; and financial services. In these cases, firms may achieve competitive advantage by being the first with a new concept or idea (referred to as *first-mover advantage*) or by continually investing in product development to remain on the leading edge of change in an industry. Such competitive advantages are difficult (but not impossible) to sustain for long periods of time. Consumer preferences shift across generations, which also pose threats to incumbents. For example, the millenials generation is characterized by a distrust of large corporate brands and resists corporate marketing in favor of peer recommendations.[2]

Framework for Strategy Analysis

The set of strategic choices confronting a particular firm varies across industries. The following framework dealing with product and firm characteristics helps you identify and analyze the set of trade-offs and choices a firm has made in establishing its strategy within an industry.

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

   With respect to distribution, is the firm maintaining control over the distribution function or outsourcing it? Some restaurant chains, for example, own all of their restaurants, while other chains operate through independently owned franchises. Computer hardware firms have recently shifted from selling through their own salespeople to using various indirect sellers, such as value-added resellers and systems integrators—in effect outsourcing the sales and distribution function.
3. **Degree of Geographical Diversification.** Is the firm targeting its products to its domestic market or integrating horizontally across many countries? Operating in other countries creates opportunities for growth but exposes firms to risks from changes in exchange rates, political uncertainties, and additional competitors.

[2]McKinsey & Company, *Perspectives on retail and consumer goods*, Number 7, January 2019.

4. **Degree of Industry Diversification.** Is the firm operating in a single industry or diversifying across multiple industries? Operating in multiple industries permits firms to diversify product, cyclical, regulatory, and other risks encountered when operating in a single industry but raises questions about management's ability to understand and manage multiple and different businesses effectively.

Application of Strategy Framework to Clorox

To apply this strategy framework to **Clorox**, we rely on the description provided by **Clorox's** management (Appendix B). Most U.S. firms include this type of management discussion and analysis in their Form 10-K filing with the Securities and Exchange Commission (SEC).

1. **Nature of Product or Service.** **Clorox** describes itself as a multinational "manufacturer and marketer of consumer and professional products." The firm describes its primary market as being in "midsized categories considered to be financially attractive."
2. **Degree of Integration in Value Chain.** In its Form 10-K, **Clorox** indicates that its customers include the diverse set of retailers, including "mass retailers, grocery outlets, warehouse clubs, dollar stores, home hardware centers, drug, pet and military stores, third-party and owned e-commerce channels, and distributors." **Clorox** is heavily dependent on its retailers for distributions and sales, and is not integrated downstream. Although retailers typically have slim net margins, they often have reasonably high gross margins. Thus, retailers command a significant share of the value chain, even though generally a smaller portion than does **Clorox**.
3. **Degree of Geographical Diversification.** **Clorox** has a limited degree of geographical diversification, with all non-U.S. sales aggregated in its international segment. In 2020, this segment represented only 15.2% of consolidated sales. However, in the MD&A, **Clorox** measures "organic" sales growth exclusive of acquisitions or divestitures and the effect of foreign exchange rates, and under this metric, the international segment experience the highest growth in 2020.
4. **Degree of Industry Diversification.** **Clorox's** products are concentrated in the consumer goods industry. Within this broadly defined industry, **Clorox** has a moderate amount of product differentiation. For example, the firm provides cleaning products, pet products, grilling products, food products, and health and wellness products. However, relative to much larger competitors like **Procter & Gamble** and **Unilever**, its product diversity is more limited.

LO 1-3

Explain the purpose, underlying concepts, and format of the balance sheet, income statement, and statement of cash flows, and the importance of accounting quality.

Step 3: Assess the Quality of the Financial Statements

Firms prepare four principal financial statements to report the results of their activities: (1) balance sheet, (2) income statement, (3) statement of comprehensive income, and (4) statement of cash flows. Firms also prepare a fifth statement, the statement of shareholders' equity, which provides further detail of the shareholders' equity section of the balance sheet. A set of notes that elaborate on items included in these statements is also required. Together, the financial statements and notes provide an extensive set of information about the firm's financial position, performance, and cash flows, and permit users to develop insights about the firm's profitability, risk, and growth.

This section provides a brief introduction to the concept of *accounting quality*. This section also presents a brief overview of the purpose and content of each of the primary financial statements, using the financial statements and notes for **Clorox** in Appendix A as examples. Understanding accounting concepts and methods and evaluating the quality of a firm's financial statements is a central element of effective financial statement analysis and therefore one of the three central objectives of this book. Chapters 2 and 3 describe the fundamental accounting concepts and methods for measuring and reporting

- assets, liabilities, and shareholders' equity.
- revenues, expenses, and income.
- cash flows associated with operating, investing, and financing activities.

Chapters 6, 7, 8, and 9 describe specific accounting principles and methods in depth, opening with a discussion of accounting quality. In this chapter, we introduce the overall concept of accounting quality by highlighting the key elements of **Clorox's** financial statements and notes.

What Is *Accounting Quality*?

We frame our discussion of accounting quality by focusing on the following issues that are central to analysis and valuation:

- Accounting information should be a fair and complete representation of the firm's economic performance, financial position, and risk.
- Accounting information should provide relevant information to forecast the firm's expected future earnings and cash flows.

Our notion of accounting quality encompasses the economic information contained in the income statement, the balance sheet, the statement of cash flows, notes to the financial statements, and MD&A (management's discussion and analysis). Each of these financial statements and supplemental disclosures integrates and articulates with the others, and each aids financial statement users in the assessment of profitability, growth, risk, and value.

Our approach to accounting quality is broader and more demanding (and more interesting) than merely asking whether the firm used U.S. GAAP or IFRS and received an unqualified opinion from the independent auditor. We instead apply a rigorous test to reported financial statements to determine whether they provide users with useful information that is relevant and reliable for understanding the firm's financial position, performance, growth, and risk, and that aids the projection of the firm's future earnings and cash flows. It is important to realize that even correctly applied accounting standards and principles may, on occasion, fail to indicate future earnings potential and limit the balance sheet's usefulness in assessing financial position and risk because even the best accounting standards and principles in the world cannot perfectly measure and report each firms' financial position and performance.

Our view of accounting quality is also broader than so-called "conservatism," which is sometimes misconstrued as an attribute of reporting quality. Conservatism in financial reporting is generally construed as recognizing losses as soon as they occur but deferring gains until they are realized in a transaction. Because conservative accounting numbers are biased, they are not high quality for purposes of financial statement analysis and valuation. Conservatism is simply a prudent response by accountants and managers when faced with uncertainty in measuring the economic effects of transactions, events, and commercial arrangements.

Of course, the importance of analyzing firms' accounting quality is further underscored by the rare but dramatic cases in which firms have intentionally misreported financial statement information to mislead users about the firm's profitability, growth, and risk. Sensational cases like the outright frauds by **Enron** and **Worldcom** are examples in which firms reported accounting information that misrepresented their underlying economics and earnings potential. We describe accounting quality, and how to assess it, in much more detail in Chapters 6, 7, 8, and 9.

Accounting Principles

U.S. GAAP determines the measurement and reporting methods that American firms use in preparing financial statements. The SEC, an agency of the U.S. government, has the legal authority to specify acceptable accounting principles in the United States (www.sec.gov), but has, for the most part, delegated the responsibility for setting U.S. GAAP to the Financial Accounting Standards Board (FASB), a private-sector body within the accounting profession (www.fasb.org). The FASB is an independent board comprising seven members and a full-time professional staff. The FASB specifies acceptable accounting principles only after receiving extensive comments on proposed accounting standards from various preparers, auditors, and users of financial statements.

The IASB (International Accounting Standards Board) is an independent entity comprising 16 members and a full-time professional staff. The IASB is responsible for developing International Financial Reporting Standards (IFRS; www.ifrs.org). Many countries have dropped their own country-specific accounting rules, formally adopting IFRS as the applicable accounting standards.

The SEC accepts financial statement filings prepared under IFRS from non-U.S. registrants, but it does not yet accept IFRS-based financial statement filings from U.S. firms. The FASB and IASB are working together to harmonize accounting standards and principles worldwide. Now when the two boards propose a new principle or a revision of an existing principle, they typically work jointly to develop the proposed principle and to collect and evaluate comments from various constituencies. They then agree on the final principle, which becomes part of both U.S. GAAP and IFRS. Global harmonization in accounting standards should facilitate better financial statement analysis, enabling analysts to evaluate and compare financial statements from firms across many countries, prepared under similar accounting principles. Accordingly, increasing comparability would make allocation of capital more efficient worldwide.

Balance Sheet—Measuring Financial Position

The balance sheet, or statement of financial position, presents a snapshot of the resources of a firm (assets) and the claims on those resources (liabilities and shareholders' equity) as of a specific date. The balance sheet derives its name from the fact that it reports the following balance, or equality:

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

That is, a firm's assets are in balance with, or equal to, the claims on those assets by creditors (liabilities) and owners (shareholders' equity). The balance sheet measures and reports the specific resources the firm controls (for example, assets such as cash, inventory, and equipment), the obligations of the entity, and ownership claims on the assets.

The assets portion of the balance sheet reports the effects of a firm's operating activities (principally those day-to-day activities to produce and deliver products and services to customers) and investing activities (principally those activities involving financial assets to generate interest income, dividends, and other returns on investment). Refer to the balance sheets for **Clorox** as of fiscal year-end 2016 through 2020 in Exhibit 1.8. **Clorox's** principal operating assets are cash and cash equivalents; receivables; inventories; property and equipment; goodwill; and other assets.

The liabilities portion of the balance sheet reports obligations that arise from a firm's operating decisions involving obligations to suppliers, employees, and customers, which are reported as accounts payable, accrued liabilities, and deferred revenues. The liabilities portion also reports obligations arising from raising short-term and long-term debt capital from banks and other lenders. The shareholders' equity portion of the balance sheet reports equity capital **Clorox** has raised from investors by issuing common stock (reported as common stock and paid-in capital), and retained earnings.

Under U.S. GAAP, firms are required to report assets and liabilities in descending order of liquidity, so the assets that are closest to cash are listed first, while the assets that are hardest to convert to cash are reported last. Similarly, the liabilities that are likely to be settled soonest are listed first, while the liabilities likely to be settled furthest in the future are shown last.

Formats of balance sheets in some countries can differ from the format used in the United States. Under IFRS, for example, firms can choose to report the balance sheet with assets and liabilities listed in *descending* order of liquidity or they can report the balance sheet with long-term assets such as property, plant, and equipment and other noncurrent assets appearing first, followed by current assets. On the financing side, balance sheets prepared under IFRS may list shareholders' equity first, followed by noncurrent liabilities and current liabilities. Both formats under IFRS maintain the balance sheet equality but present accounts in a different sequence.

Exhibit 1.8

The Clorox Company
Consolidated Balance Sheets (in millions)

	2016	2017	2018	2019	2020
ASSETS					
Cash and cash equivalents	$ 401	$ 418	$ 131	$ 111	$ 871
Receivables, net	569	565	600	631	648
Inventories, net	443	459	506	512	454
Prepaid expenses and other current assets	72	72	74	51	47
Total current assets	**1,485**	**1,514**	**1,311**	**1,305**	**2,020**
Property, plant and equipment, net	906	931	996	1,034	1,103
Operating lease right-of-use assets	—	—	—	—	291
Goodwill	1,197	1,196	1,602	1,591	1,577
Trademarks, net	657	654	795	791	785
Other intangible assets, net	78	68	134	121	109
Other assets	187	210	222	274	328
Total assets	**$ 4,510**	**$ 4,573**	**$ 5,060**	**$ 5,116**	**$ 6,213**
LIABILITIES AND STOCKHOLDERS' EQUITY					
Notes and loans payable	$ 523	$ 404	$ 199	$ 396	$ —
Current maturities of long-term debt	—	400	—	—	—
Current operating lease liabilities	—	—	—	—	64
Accounts payable and accrued liabilities	1,035	1,005	1,001	1,035	1,329
Income taxes payable	—	—	—	9	25
Total current liabilities	**1,558**	**1,809**	**1,200**	**1,440**	**1,418**
Long-term debt	1,789	1,391	2,284	2,287	2,780
Long-term operating lease liabilities	—	—	—	—	278
Other liabilities	784	770	778	780	767
Deferred income taxes	82	61	72	50	62
Total liabilities	**4,213**	**4,031**	**4,334**	**4,557**	**5,305**
Commitments and contingencies	—	—	—	—	—
Stockholders' equity					
Preferred stock	—	—	—	—	—
Common stock	159	159	159	159	159
Additional paid-in capital	868	928	975	1,046	1,137
Retained earnings	2,163	2,440	2,797	3,150	3,567
Treasury shares, at cost	(2,323)	(2,442)	(2,658)	(3,194)	(3,315)
Accumulated other comprehensive net (loss) income	(570)	(543)	(547)	(602)	(640)
Stockholders' equity	**297**	**542**	**726**	**559**	**908**
Total liabilities and stockholders' equity	**$ 4,510**	**$ 4,573**	**$ 5,060**	**$ 5,116**	**$ 6,213**

In the United Kingdom, for example, the balance sheet commonly takes the following form:

$$\text{Noncurrent Assets} + (\text{Current Assets} - \text{Current Liabilities}) - \text{Noncurrent Liabilities} = \text{Shareholders' Equity}$$

This format takes the perspective of shareholders by reporting the net assets available for shareholders after subtracting claims by creditors. You can always rearrange the components of balance sheets to the format you consider most informative or comparable with others. We do this in Chapter 5, where we analyze a firm's financial flexibility.

Assets—Recognition, Measurement, and Classification

Which of its resources should a firm *recognize* as assets? How should the firm *measure* these assets? How should it *classify* them in the balance sheet? U.S. GAAP and IFRS establish the principles that firms must use to determine responses to those questions.

Defining what resources firms should recognize as assets is one of the most important definitions among all of the principles established by U.S. GAAP and IFRS:

> *Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.*[3]

Assets are defined with a forward-looking perspective: resources that have the potential to provide a firm with future economic benefits, such as the ability to generate future cash inflows (as with accounts receivable, inventories, and investments) or to reduce future cash outflows (as with prepaid expenses) or to provide future service potential for operating activities (as with property, equipment, and intangibles). Therefore, asset recognition depends on managers' expectations for future economic benefits. A firm can recognize as assets only those resources for which it

- controls the rights to future economic benefits as a result of a past transaction or event.
- can predict and measure, or quantify, the future benefits with a reasonable degree of precision and reliability.

If an expenditure does not meet *both* criteria, it cannot be capitalized as an asset and must be expensed. A firm should *derecognize* assets (that is, write off assets from the balance sheet) that it determines no longer represent future economic benefits (such as writing off uncollectible receivables or unsalable inventory). Resources that firms do not normally recognize as assets because they fail to meet one or both of the criteria include purchase orders received from customers; employment contracts with corporate officers and employees; and a quality reputation with employees, customers, or citizens of the community.

Assets on the balance sheet are either *monetary* or *nonmonetary*. Monetary assets include cash and claims to future cash flows. **Clorox's** monetary assets include cash, and accounts receivable. Some firms also hold short-term or long-term investments in debt and equity securities of other firms. Under U.S. GAAP and IFRS, balance sheets report monetary assets using a variety of measurement attributes intended to enhance the relevance and reliability of reported asset values. Depending on their nature, some monetary assets are reported at current value, others at net realizable value (the amounts the firm expects to collect), others at the present value of future cash flows, and still other assets are typically reported at fair value (the amounts the firm could expect to realize if it sold the assets). Chapter 2 provides more discussion of how accounting is a "mixed attribute" measurement model.

Nonmonetary assets are either *tangible*, such as inventories, buildings, and equipment, or *intangible*, including right-of-use assets, brand names, patents, trademarks, licenses, and goodwill. In contrast to monetary assets, nonmonetary assets do not represent claims to future cash flows. Instead, nonmonetary assets represent benefits from future service potential. Under U.S. GAAP and IFRS, firms report certain types of nonmonetary assets at the amounts initially paid to

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

acquire them (acquisition, or historical, cost) adjusted for the use of the asset over time (accumulated depreciation or amortization), or the amounts currently required to replace them (replacement cost), or the amounts for which firms could currently sell them (net realizable value). Chapter 2 discusses alternative measurement methods and their implications for earnings.

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

Current Assets. Current assets include cash and other assets that a firm expects to collect, sell, or consume during the normal operating cycle of a business, usually one year. For example, **Clorox** reports cash and equivalents; accounts receivable; inventories; and prepayments for expenses such as rent, insurance, and advertising.

Investments. This category includes short-term and long-term investments in the debt and equity securities of other entities. If a firm makes such investments for short-term purposes, it classifies them under current assets. Noncurrent assets include long-term investments and equity investments in noncontrolled affiliates. For these investments in noncontrolled affiliates, the company does not prepare consolidated financial statements; instead, it reports the investments on the balance sheet using the equity method (discussed in Chapter 8).

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

Intangibles. Intangibles include legal or contractual rights to the future use of property. Patents, trademarks, licenses, right-of-use assets, and franchises are intangible assets. The most troublesome asset recognition questions revolve around which rights satisfy the criteria for an asset. As Chapter 8 discusses in more depth, firms generally recognize the intangibles acquired in external market transactions as assets. For example, in Note 5, "Goodwill, Trademarks, and Other Intangible Assets," **Clorox** details the types and amounts of intangible assets that it has acquired in external market transactions that have indefinite lives, finite lives, and goodwill. However, firms do not recognize as assets intangibles developed internally by the firm (the **Clorox** brand name, for example). The rationale for the different accounting treatment is that measurement of value of intangibles acquired in external market transactions is more reliable than the estimates of value of internally developed intangibles.

Liabilities—Recognition, Valuation, and Classification

Under U.S. GAAP and IFRS, firms must report obligations as liabilities if they meet the definition of a liability:

> *Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.*[4]

Therefore, liabilities represent a firm's existing obligations to make payments of cash, goods, or services in a reasonably predictable amount at a reasonably predictable future time as a result of a past transaction or event. Liabilities reflect managers' expectations of future sacrifices of resources to satisfy existing obligations. Most firms (except banks) classify liabilities in either a current liabilities category, which includes obligations a firm expects to settle within one year, or a noncurrent liabilities category. **Clorox** reports current liabilities for obligations to suppliers of goods and services (accounts payable and accrued liabilities), current operating lease liabilities, and income taxes payable. **Clorox** also reports noncurrent liabilities for long-term debt, long-term operating lease liabilities, deferred taxes, and other long-term liabilities.

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

The most troublesome questions regarding liability recognition relate to *executory contracts* and *contingent obligations*. Under U.S. GAAP and IFRS, firms do not recognize executory contracts for labor, purchase order commitments, and some lease agreements as liabilities because the firm has not yet received the benefits from these items and is not yet obligated to pay for them. For example, a firm should not recognize a liability when it places an order to purchase inventory, which is an executory contract; the obligation arises only when the supplier delivers inventory. Likewise, firms should not recognize a liability for future wages to employees; instead, it should recognize the liability once the employees have provided services. Notes to the financial statements disclose material executory contracts and other contingent claims. For example, refer to **Clorox's** Note 9, "Financial Instruments and Fair Value Measurements," Note 10, "Other Contingencies, Guarantees, and Commitments," and Note 11, "Leases" (Appendix A).

Most liabilities are monetary, requiring future payments of cash. U.S. GAAP and IFRS report those due within one year at the amount of cash the firm expects to pay to discharge the obligation. If the obligations extend beyond one year, U.S. GAAP and IFRS again require firms to use different attributes to measure and report liabilities, depending on their nature. For example, some liabilities are reported at the present value of the required future cash flows, such as lease liabilities. Other liabilities, such as warranties, require delivery of goods or services instead of payment of cash, and the balance sheet reports those liabilities at the expected future cost of providing these goods and services. Other liabilities also involve obligations to deliver goods or services when customers prepay, giving rise to deferred revenue liabilities (such as sales of tickets by an airline to passengers who have yet to fly). The balance sheet reports these liabilities at the amount of revenues that have been received from customers and not yet earned.

Shareholders' Equity Valuation and Disclosure

The shareholders' equity in a firm is a residual interest or claim. That is, the owners are entitled to all of the assets that are not required to pay creditors. Therefore, the valuation of assets and liabilities on the balance sheet determines the valuation of total shareholders' equity.[5]

Balance sheets show shareholders' equity separated into

- amounts invested by common shareholders for an ownership interest in a firm (**Clorox** uses the accounts *Common Stock* and *Additional Paid-in Capital*). Some firms also report amounts invested by preferred shareholders as *Preferred Stock*. **Clorox** includes a Preferred Stock account in shareholders equity, but it is measured at zero because **Clorox** has authorized but not yet issued any preferred shares.
- cumulative net income in excess of dividends declared (**Clorox's** account is *Retained Earnings*).
- shareholders' equity effects of the recognition or valuation of certain assets or liabilities (**Clorox's** account is *Accumulated Other Comprehensive Net (Loss) Income*).
- treasury stock (for amounts a firm uses for repurchases of its own shares; **Clorox** uses *Treasury Shares*, at Cost and deducts these amounts within *Stockholders' Equity*).
- noncontrolling interests, which reflects the amounts of equity capital invested by noncontrolling investors in subsidiaries the firm controls and consolidates (**Clorox** has no noncontrolling interests as of the fiscal 2020 balance sheet date).

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

Analysts frequently examine the relation among items on the balance sheet when assessing a firm's financial position and credit risk. For example, when current assets exceed current liabilities, the firm may have sufficient liquid resources to pay short-term creditors. Alternatively, a firm with strong

[5]Bonds with equity characteristics (such as convertible bonds), equity claims with debt characteristics (such as redeemable preferred stock), and obligations to be settled with the issuance of equity shares (such as stock options) cloud the distinction between liabilities and shareholders' equity.

cash flows and bargaining power (like **Walmart** or **Amazon**) can operate with current liabilities in excess of current assets. A relatively low percentage of long-term debt to shareholders' equity suggests that the firm can likely issue new debt financing or use assets to repay debt when it comes due.

However, when analyzing the balance sheet, you must recognize the following:

- Certain valuable resources of a firm that generate future cash flows, such as a patent for a pharmaceutical firm or a brand name or trademark for a consumer products firm, appear as assets only if they were acquired from another firm and therefore have a measurable acquisition cost. For **Clorox**, it has both internally developed and acquired brands. Only the latter appear as assets on the balance sheet. See Note 2, "Business Acquired," where **Clorox** discusses the acquisition of NutraNext, which gave rise to $143 million in trademark assets. Additionally, Note 5, "Goodwill, Trademarks, and Other Intangible Assets," details the $1.6 billion of intangibles on its balance sheet.
- Nonmonetary assets are reported at acquisition cost, net of accumulated depreciation or amortization, even though some of these assets may have current market values that exceed their recorded amounts. An example is the market value versus recorded value of land on the balance sheets of many established firms.
- Certain rights to use resources and commitments to make future payments may not appear as assets and liabilities. For example, **Clorox** has potential liabilities related to various environmental issues, like those discussed in Note 10, "Other Contingencies, Guarantees, and Commitments."[6]
- Noncurrent liabilities appear at the present value of expected cash flows discounted at an interest rate determined at the time the liability initially arose instead of at a current market interest rate. Long-term lease liabilities are an example.

For certain firms under these circumstances, the balance sheet reporting may provide incomplete measures of the economic position of the firms. When using the balance sheet, you should consider making adjustments for items that impact balance sheet quality. Chapters 6, 7, 8 and 9 discuss these issues more fully.

Income Statement—Measuring Performance

The second principal financial statement, the income statement, provides information about the profitability of a firm for a period of time. As is common among analysts and investors, we use the terms *net income*, *earnings*, and *profit* interchangeably when referring to the bottom-line amount on the income statement. Exhibit 1.9 presents the income statements for **Clorox** for the five years 2016 through 2020.

Net income equals revenues and gains minus expenses and losses. Revenues measure the inflows of assets and the settlements of obligations from selling goods and providing services to customers. Expenses measure the outflows of assets that a firm consumes and the obligations it incurs in the process of operating the business to generate revenues. As a measure of performance for a period, revenues represent the resources generated by a firm and expenses represent the resources consumed during that period. Gains and losses result from selling assets or settling liabilities for more or less than their book values in transactions that are only peripherally related to a firm's central operations. For example, the sale of a building by **Clorox** for more than its book value would appear as a gain on the income statement. Chapter 2 describes income measurement in detail, and Chapter 3 contrasts income measurement with cash flows. Chapter 9 describes accounting for operating activities, particularly recognizing revenues and expenses.

Clorox generates revenues from a single activity: selling consumer and professional products to customers through mass retailers, grocery outlets, warehouse clubs, dollar stores, home hardware centers, drug, pet and military stores, third-party and owned e-commerce channels, and distributors. (See Item 1. Business, "Overview of Business," in **Clorox's** Form 10-K.)

[6]Prior to 2020, firms were not required to measure and recognize liabilities for large amounts of long-term operating lease liabilities. However, these are now recognized as liabilities, as highlighted earlier. We discuss lease accounting in more depth in Chapter 7.

Exhibit 1.9

The Clorox Company
Consolidated Statements of Earnings (in millions)

	2016	2017	2018	2019	2020
Net sales	**$ 5,761**	**$ 5,973**	**$ 6,124**	**$ 6,214**	**$ 6,721**
Cost of products sold	3,163	3,302	3,449	3,486	3,658
Gross profit	**2,598**	**2,671**	**2,675**	**2,728**	**3,063**
Selling and administrative expenses	806	810	837	856	969
Advertising costs	587	599	570	612	675
Research and development costs	141	135	132	136	145
Operating income	**1,064**	**1,127**	**1,136**	**1,124**	**1,274**
Interest expense	88	88	85	97	99
Other (income) expense, net	(7)	6	(3)	3	(10)
Earnings before income taxes	**983**	**1,033**	**1,054**	**1,024**	**1,185**
Income taxes	335	330	231	204	246
Earnings from continuing operations	**648**	**703**	**$ 823**	**$ 820**	**$ 939**
Losses from discontinued operations, net of tax	—	(2)	—	—	—
Net earnings	**$ 648**	**$ 701**	**$ 823**	**$ 820**	**$ 939**
Net earnings per share					
Basic	$ 5.01	$ 5.43	$ 6.37	$ 6.42	$ 7.46
Diluted	$ 4.92	$ 5.33	$ 6.26	$ 6.32	$ 7.36
Weighted average shares outstanding (in thousands)					
Basic	129,472	128,953	129,293	127,734	125,828
Diluted	131,717	131,566	131,581	129,792	127,671

Cost of sales includes the costs of producing a product or delivering a service. **Clorox's** primary cost of sales is the cost of the products it sells to retail chains and other outlets. Expenses for most firms also include selling and administrative expenses, advertising expenses, depreciation and amortization expenses, research and development expenses (for some firms), interest expense on short-term and long-term debt and financing leases, and income tax expense.

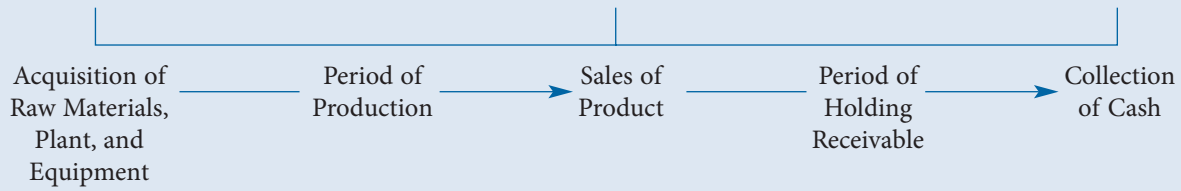
When using the income statement to assess a firm's profitability, you should focus on not only its current and past profitability, but also on the likely level of sustainable earnings in the future (Step 5 in our six-step framework). When forecasting future earnings, you must project whether past levels of revenues and expenses will likely continue and grow. In Chapters 6, 7, 8, and 9 we discuss some of the accounting quality factors you should consider when making these judgments. Chapter 10 provides an extensive discussion of forecasting future financial statements.

Accrual Basis of Accounting

Exhibit 1.10 depicts an operating cycle for a typical manufacturing firm. Net income from this series of activities equals the amount of cash collected from customers minus the amount of cash paid for raw materials, labor, and the services of production facilities. If the entire operating cycle is complete in one accounting period, few difficulties would arise in measuring operating performance. Net income would equal cash inflows minus cash outflows related to these operating

Exhibit 1.10

Operating Cycle for a Manufacturing Firm



activities. However, firms acquire raw materials in one accounting period and use them in future accounting periods to manufacture products that are sold in the same period or a later period. They acquire buildings and equipment in one accounting period and use them during many future accounting periods. Firms commonly sell goods or services in one period and then customers pay later. Firms often consume resources or incur obligations in one accounting period and pay for those resources or settle those obligations in subsequent periods. Accrual accounting solves these across-period measurement issues.

Under a simple cash basis of accounting, a firm recognizes revenue when it receives cash from customers and recognizes expenses when it pays cash to suppliers, employees, and other providers of goods and services. Because a firm's operating cycle usually extends over several accounting periods, the cash basis of accounting provides a poor measure of economic performance for specific periods of time because it focuses on the timing of cash receipt and payment rather than on the underlying economics during the period in which the firm successfully earned resources (revenues) and used resources (expenses) in an effort to generate profits. To overcome this deficiency of the cash basis, both U.S. GAAP and IFRS require that firms use the accrual basis of accounting in measuring performance on the income statement and in measuring assets, liabilities, and equity on the balance sheet.

In Chapters 2 and 9, we describe the principles in the new five-step revenue recognition process (based on satisfying contracts with customers) that the FASB and IASB have adopted. For our purposes now, it is sufficient to understand that under the accrual basis of accounting, a firm recognizes revenue when it meets the following two criteria:

- **It has completed all or substantially all of the revenue-generating process by delivering products or services to customers.**
- **It is reasonably certain it has satisfied a liability or generated an asset that it can measure reliably.**

Most firms recognize revenue during the period in which they sell goods or render services. Consider the accrual basis of accounting for a manufacturing firm. The manufacturing of product could occur in one period, the sale of product to customers could occur in the next period, and the customer could pay in the following period. The manufacturer would recognize revenue in the period when it sold product to the customer and created the asset (a receivable from the customer). The cost of manufacturing a product would remain on the balance sheet as an asset (inventory) until the time of sale. At the time of sale, the firm recognizes revenue in the amount of cash it expects to collect and recognizes the cost of manufacturing the product as a cost of the goods sold, removing the cost of the product from its balance sheet.

Other costs cannot be associated with particular revenues because they are costs of operating the business for a particular period of time (for example, salaries and rent). Therefore, the firm recognizes such costs as expenses on the income statement in the period in which it consumes those resources, even if the firm paid for those resources in an earlier period (prepaid expenses) or will pay for them in a subsequent period (accrued expenses).