ESSENTIALS

of Financial Analysis

- Processes and methods of financial statement analysis
- Framework for evaluating a company's "quality of earnings"
- Identifies potential problem areas that need to be investigated
- Analytical tools and techniques to meet the objectives of different user groups

George T. Friedlob
Lydia L. F. Schleifer

ESSENTIALS

of Financial Analysis

George T. Friedlob
Lydia L.F. Schleifer

John Wiley & Sons, Inc.

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada

Library of Congress Cataloging-in-Publication Data:

Friedlob, G. Thomas.
Essentials of financial analysis / George T. Friedlob, Lydia L. F. Schleifer.
p. cm.—(Essentials series)
Includes bibliographical references and index.
ISBN 0-471-22830-3 (pbk. : alk. paper)
1. Financial statements. 2. Corporation reports. 3. Financial statements—United States. 4. Corporation reports—United States. I. Schleifer, Lydia L. F. (Lydia Lancaster Folger), 1955- II. Title. III. Series.
HG4028.B2 F75 2003
332.63′2042—dc21

2002012427

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

Contents

Preface

The financial analysis of companies is usually undertaken so that investors, creditors, and other stakeholders can make decisions about those companies. The focus of this book is on the financial analysis of companies that are publicly traded and therefore make public the data and information needed by stakeholders, who can then use the analytical procedures included in this book.

The primary objectives in this book are to

- Provide an overview of financial statements and where and how to obtain them.
- Explain how to use the information provided in annual reports and Securities and Exchange Commission (SEC) filings, to examine a company's profitability, liquidity, and solvency.
- Examine various techniques for evaluating the market value of companies based on their financial reports and stock prices.
- Discuss issues related to the quality of earnings and financial reporting.
- Describe several ways of examining the cash flows of companies.
- Describe new developments in areas like pro forma reporting, economic value added (EVA), and discounted cash flow methods.

Chapter 1 starts by looking briefly at how accounting for resources began. Then, an example of a set of financial statements (for Coca-Cola Company) is included and their content explained. Following that is a comparison of cash-basis and accrual-basis accounting.

Chapter 2 looks at profitability from many angles. Profits are reported on the income statement, so we start with a look at the categories of earnings on the income statement. The chapter discusses operating income and comprehensive income and where to find that information. Because revenue recognition is so much in the spotlight lately, the basics of that principle are discussed. Four of the main analytical techniques used by financial analysts are included: return on assets (ROA), return on equity (ROE), earnings per share (EPS), and the price/earnings (P/E) ratio.

Chapter 3 examines the concepts of liquidity and solvency and how to evaluate those attributes for a company. The primary focus is on the balance sheet. However, also included are some cash flow adequacy ratios, since lack of cash flow can force companies to declare bankruptcy. The chapter discusses how leverage can affect a company. Also included is a discussion of the auditor's decision process when evaluating going concern status. Finally, we include a demonstration of the use of Altman's Z score.

Chapter 4 examines the activity, effectiveness, and productivity measures that can be used to evaluate companies. The chapter discusses several turnover ratios, like accounts receivable and inventory turnover. It also discusses a method of analyzing capacity usage and how to calculate operating leverage and examine its impact on profitability.

Chapter 5 discusses the issue of quality of earnings and how certain aspects of financial reporting enhance or detract from that quality. Because quality is related to how predictive of cash flows the information is, the chapter also includes several cash flow ratios and what information they provide. Common-size cash flow statements take the cash flow analysis one step further. Common-size income statements and balance sheets are also included.

Chapters 6 and 7 discuss relatively recent developments in financial analysis. Chapter 6 includes pro forma reporting and EVA. Chapter 7 discusses e-business and includes several methods for analyzing the value of Internet businesses.

As more and more people make the decision to control their own investment decisions, the need for explanations of financial analysis tools becomes greater. The intent of this book is to provide helpful explanatory information to financial statement users and company stakeholders of all sorts. If you are one of these stakeholders, we hope that this book will help you to make good decisions regarding the businesses in which you have or want to have a stake.

Acknowledgments

The authors would like to acknowledge the contribution of Paul Schleifer to this project. They would also like to thank Judy Howarth for her patience throughout the process of writing this book.

CHAPTER 1

Understanding Financial Statements and Annual Reports

After reading this chapter, you will be able to

- Appreciate the history of accounting
- Understand the basics of the financial statements
- Understand cash-basis versus accrual-basis accounting
- Know how to obtain financial statements, Securities and Exchange Commission (SEC) filings, and annual reports
- Identify the main components of an annual report or 10K filing

Investors and owners have struggled with communicating and analyzing financial performance for centuries. Since the beginning of business activity—and with it, delegation of responsibility—the owner of the invested resources (perhaps a herd of goats) has sought to monitor and evaluate the stewardship of the operating manager (the shepherd). Accounting records have been found in Babylon, Assyria, and Sumeria that date back over 7,000 years. In these early records, scribes described business transactions using wedge-shaped cuneiform writing impressed on clay tablets. For privacy, a tablet was wrapped in a clay sheet, marked with a seal, and fired.

Because there is a natural season to farming and herding, a natural beginning and a natural end, it was easy to analyze the results of activities: The value of the harvest was compared to the value of the seed and other resources, or the growth of the flock was noted after young were born, as in Exhibit 1.1. The same natural beginning and end to business activity was true when ancient sailors such as Columbus or Magellan embarked ventures to find new wealth in faraway places. Early accounting and financial analysis focused on determining the profit from each separate season or venture. Queen Isabella, for example, supplied ships and provisions, and Columbus sailed away. Years later, when he returned, the worth of the New World booty was compared to the cost of the initial provisions. The difference was profit.

Specific ventures, and agriculture and pastoral cycles have natural beginnings and ends. A list of all assets and liabilities was prepared at the beginning and end of the undertaking, and the change was profit or loss. Much the same method is used today, but modern businesses generally have no natural cycle. Barring business failure, modern businesses will go on forever. Plants operate day after day, year after year. Old plants wear out, new plants are built. Even now, some businesses have operated con-

EXHIBIT 1.1

Pastorale Accounting

Size of Herd		
Beginning of spring		50 goats
End of summer		57 goats
Beginning goat herd	50 goats	
Ending goat herd	57 goats	
Increased wealth (profit)		7 goats

tinuously for hundreds of years. Investors, creditors, and others cannot wait for a modern business to naturally wind down before profit is calculated. To solve this problem, the arbitrary cycle of a fiscal year is imposed on business activity.

Many businesses have a busy season and a slow season. Where this is true, businesses may adopt a fiscal, or economic, year that starts and ends in the slow season, rather than using the calendar year with a year end at December 31. For example, Ethan Allen, a furniture manufacturer, and Robert Mondavi, a wine producer, both use a fiscal year that ends on June 30. PriceSmart, a membership shopping club operating in Central America, Asia, and the Caribbean, uses August 31. Net2Phone uses a July 31 year end. Wal-Mart and Kmart have a January 31 year end.

Accounting is the language of business. It is the vehicle for communicating financial information about a company to many different groups of people: managers, owners, creditors, investors, customers, suppliers, government agencies, economists, and others. Each of these groups may have different uses for the information. Owners are concerned that the company produce a profit and increase their wealth. Creditors want to know that the company is liquid enough to make debt payments and solvent enough to repay the loan principle if the business fails. Managers want to be compensated for their work and have confidence their employer will provide job security. Customers and suppliers want to benefit from their ongoing business relationships. The government wants to ensure the public good, by collecting taxes and improving financial reporting. All these stakeholders can benefit and achieve their objectives if they have good accounting information.

Accounting is an ever-changing communicative system. All parties with a stake in the economic environment, upon which accounting reports, continually press for improvements in the information that accounting systems provide. This book presents many traditional as well as new ways of examining financial information that will facilitate the

In the Real World

Opaqueness versus Transparency

The events surrounding Enron's catastrophic bankruptcy have increased the focus on financial reporting by many companies. There has been much discussion on the issue of opaqueness versus transparency, which alludes to whether financial reporting actually is informative enough for decision makers. A lot of pressure has been brought to bear on companies to make their financial statements more transparent. For example, IBM had not disclosed that certain gains on sales of assets had been used to reduce the operating expenses on the income statement. After experiencing a stock price decline that resulted when the *New York Times* reported that IBM's "fourth-quarter earnings met expectations only because of a gain . . . from the sale of its optical transceiver business . . .", IBM decided to improve and increase its financial disclosures. However, John Joyce, IBM's chief financial officer (CFO), disagrees that such gains should be separately disclosed even though he is willing to disclose information about how IBM calculates its operating expenses. So, the push for transparency may result in more information in the notes to the financial statements even if not a change in the amounts on the financial statements themselves.

Source: "IBM Plans to Expand Earnings Reports to Include More Details about Its Income," *The Wall Street Journal*, February 19, 2002.

user's making effective decisions. This chapter provides an overall view of the information typically provided in financial statements.

A Tour of the Financial Statements

We chose the financial statements of The Coca-Cola Company because they show the basics very well and because practically everyone has heard of Coke. The company includes four financial statements in its annual report, and they are shown in Exhibit 1.2. The names of the financial statements are

- Consolidated Statements of Income
- Consolidated Balance Sheets
- Consolidated Statements of Cash Flows
- Consolidated Statements of Share-Owners' Equity

Notice that the balance sheet covers two years and the other statements cover three years. All the titles listed above include the word "consolidated" because the statements include the accounts of The Coca-Cola Company (Coca-Cola) and all subsidiaries in which the company's ownership interest enables it to exert control. A starting point for determin-

EXHIBIT 1.2

The Coca-Cola Company and Subsidiaries

Consolidated Statements of Income

Year Ended December 31,	2001	2000	1999
	(in millions, except per share data)		
NET OPERATING REVENUES	$20,092	$19,889	$19,284
Cost of goods sold	6,044	6,204	6,009
GROSS PROFIT	14,048	13,685	13,275
Selling, administrative and general expenses	8,696	8,551	8,480
Other operating charges	—	1,443	813
OPERATING INCOME	5,352	3,691	3,982
Interest income	325	345	260
Interest expense	289	447	337

EXHIBIT 1.2

THE COCA-COLA COMPANY AND SUBSIDIARIES CONTINUED

Year Ended December 31,	2001	2000	1999
Equity income (loss)	152	(289)	(184)
Other income—net	39	99	98
Gains on issuances of stock by equity investees	91	—	—
INCOME BEFORE INCOME TAXES AND CUMULATIVE EFFECT OF ACCOUNTING CHANGE	5,670	3,399	3,819
Income taxes	1,691	1,222	1,388
INCOME BEFORE CUMULATIVE EFFECT OF ACCOUNTING CHANGE	3,979	2,177	2,431
Cumulative effect of accounting change, net of income taxes	(10)	—	—
NET INCOME	$ 3,969	$ 2,177	$ 2,431
BASIC NET INCOME PER SHARE			
Before accounting change	$ 1.60	$ .88	$ .98
Cumulative effect of accounting change	—	—	—
	$ 1.60	$ .88	$ .98
DILUTED NET INCOME PER SHARE			
Before accounting change	$ 1.60	$ .88	$ .98
Cumulative effect of accounting change	—	—	—
	$ 1.60	$ .88	$ .98
AVERAGE SHARES OUTSTANDING	2,487	2,477	2,469
Dilutive effect of stock options	—	10	18
AVERAGE SHARES OUTSTANDING ASSUMING DILUTION	2,487	2,487	2,487

EXHIBIT 1.2

THE COCA-COLA COMPANY AND SUBSIDIARIES CONTINUED

Consolidated Balance Sheets

December 31,	**2001**	**2000**
	(in millions except share data)	
ASSETS		
CURRENT		
Cash and cash equivalents	$ 1,866	$ 1,819
Marketable securities	68	73
	1,934	1,892
Trade accounts receivable, less allowances		
of $59 in 2001 and $62 in 2000	1,882	1,757
Inventories	1,055	1,066
Prepaid expenses and other assets	2,300	1,905
TOTAL CURRENT ASSETS	7,171	6,620
INVESTMENTS AND OTHER ASSETS		
Equity method investments		
Coca-Cola Enterprises Inc.	788	707
Coca-Cola Amatil Limited	432	617
Coca-Cola HBC S.A.	791	758
Other, principally bottling companies	3,117	3,164
Cost method investments, principally		
bottling companies	294	519
Other assets	2,792	2,364
	8,214	8,129
PROPERTY, PLANT AND EQUIPMENT		
Land	217	225
Buildings and improvements	1,812	1,642
Machinery and equipment	4,881	4,547
Containers	195	200
	7,105	6,614
Less allowances for depreciation	2,652	2,446

EXHIBIT 1.2

THE COCA-COLA COMPANY AND SUBSIDIARIES CONTINUED

December 31,	2001	2000
	4,453	4,168
TRADEMARKS AND OTHER INTANGIBLE ASSETS	2,579	1,917
	$ 22,417	$ 20,834
LIABILITIES AND SHARE-OWNERS' EQUITY		
CURRENT		
Accounts payable and accrued expenses	$ 3,679	$ 3,905
Loans and notes payable	3,743	4,795
Current maturities of long-term debt	156	21
Accrued income taxes	851	600
TOTAL CURRENT LIABILITIES	8,429	9,321
LONG-TERM DEBT	1,219	835
OTHER LIABILITIES	961	1,004
DEFERRED INCOME TAXES	442	358
SHARE-OWNERS' EQUITY		
Common stock, $.25 par value		
Authorized: 5,600,000,000 shares		
Issued: 3,491,465,016 shares in 2001;		
3,481,882,834 shares in 2000	873	870
Capital surplus	3,520	3,196
Reinvested earnings	23,443	21,265
Accumulated other comprehensive income and unearned compensation on restricted stock	(2,788)	(2,722)
	25,048	22,609

EXHIBIT 1.2

THE COCA-COLA COMPANY AND SUBSIDIARIES CONTINUED

December 31,	**2001**	**2000**
Less treasury stock, at cost (1,005,237,693 shares in 2001; 997,121,427 shares in 2000)	13,682	13,293
	11,366	9,316
	$ 22,417	$ 20,834

Consolidated Statements of Cash Flows

Year Ended December 31,	**2001**	**2000**	**1999**
			(in millions)
OPERATING ACTIVITIES			
Net income	$ 3,969	$ 2,177	$ 2,431
Depreciation and amortization	803	773	792
Deferred income taxes	56	3	97
Equity income or loss, net of dividends	(54)	380	292
Foreign currency adjustments	(60)	196	(41)
Gains on issuances of stock by equity investees	(91)	—	—
Gains on sales of assets, including bottling interests	(85)	(127)	(49)
Other operating charges	—	916	799
Other items	34	119	119
Net change in operating assets and liabilities	(462)	(852)	(557)
Net cash provided by operating activities	4,110	3,585	3,883

EXHIBIT 1.2

THE COCA-COLA COMPANY AND SUBSIDIARIES CONTINUED

Year Ended December 31,	2001	2000	1999
INVESTING ACTIVITIES			
Acquisitions and investments, principally trademarks and bottling companies	(651)	(397)	(1,876)
Purchases of investments and other assets	(456)	(508)	(518)
Proceeds from disposals of investments and other assets	455	290	176
Purchases of property, plant and equipment	(769)	(733)	(1,069)
Proceeds from disposals of property, plant and equipment	91	45	45
Other investing activities	142	138	(179)
Net cash used in investing activities	(1,188)	(1,165)	(3,421)
FINANCING ACTIVITIES			
Issuances of debt	3,011	3,671	3,411
Payments of debt	(3,937)	(4,256)	(2,455)
Issuances of stock	164	331	168
Purchases of stock for treasury	(277)	(133)	(15)
Dividends	(1,791)	(1,685)	(1,580)
Net cash used in financing activities	(2,830)	(2,072)	(471)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	(45)	(140)	(28)
CASH AND CASH EQUIVALENTS			
Net increase (decrease) during the year	47	208	(37)
Balance at beginning of year	1,819	1,611	1,648
Balance at end of year	$ 1,866	$ 1,819	$ 1,611

ing control is when a company owns more than 50 percent of the voting stock of another company. Coca-Cola states in its "Management's Discussion and Analysis" (MD&A) that "all majority-owned entities in which our Company's control is considered other than temporary are consolidated."

Starting with the income statement, the next section will give a brief explanation of each line item.

Income Statement

- *Net operating revenues.* Revenues earned performing fundamental business operations. Coca-Cola's revenue recognition policy is to record revenue "when title passes to our bottling partners or our customers."
- *Cost of goods sold.* The cost of the inventory that Coca-Cola sold to its bottling partners or customers
- *Gross profit.* The difference between sales (or operating) revenues and cost of goods sold
- *Selling, administrative, and general expenses.* Operating expenses in addition to cost of goods sold. The bulk of this category goes to marketing and advertising for Coca-Cola.
- *Other operating charges.* A category that may include nonrecurring expenses and costs like write-downs of asset values and settlements of lawsuits
- *Operating income.* Typically is the income from basic business operations and is also known as earnings before interest and taxes. For Coca-Cola, this is also before inclusion of items related to investments that Coca-Cola has made in other companies.
- *Interest income and interest expense.* Interest earned on investments and interest incurred for borrowing, like commercial paper debt

- *Equity income or loss.* This is Coca-Cola's share of the income earned by companies that Coca-Cola has bought enough stock in to be able to influence their management practices.
- *Other income.* Can include atypical events like when a subsidiary merges with another company and decreases the parent's (i.e., Coca-Cola's) ownership interest in the combined activity.
- *Gains on issuances of stock by equity investees.* An equity investee is a company that Coca-Cola owns stock in. The investee issued more stock to a third party, Coca-Cola's investment value increased, so Coca-Cola had a gain.
- *Income taxes.* The income tax effect of every item preceding this line
- *Income before cumulative effect of accounting change.* Also known as income from continuing operations; operations that are discontinued or are being discontinued are shown separately
- *Cumulative effect of accounting change, net of income taxes.* When a company changes how it accounts for something, it may be necessary to report the impact on net income in prior years as if the company had always used the new method. In Coca-Cola's case, the company adapted a new requirement for reporting derivatives and hedging activities.
- *Net income.* The "bottom line"!
- *Basic net income per share.* Commonly known as earnings per share (EPS). This is net income divided by the average number of common shares outstanding (a company may disclose the number of shares here, as Coca-Cola does, or in the notes)
- *Diluted net income per share.* Reported only if not greater than basic EPS. Diluted EPS shows how much reduction would occur if additional common shares were issued through conversion of other securities or exercise of stock options.

Balance Sheet

- *Assets.* Resources that a company has legal control of
- *Current assets.* Cash and other assets likely to be converted to cash or consumed within a year; usually includes the following five components

  1. *Cash and cash equivalents.* The latter are marketable and highly liquid securities with short-term maturities (say, no more than three months). May include CDs and money market funds
  2. *Marketable securities.* May include any investment in the stocks or bonds of another entity (probably small enough to not involve influence or control)
  3. *Trade accounts receivable.* Receivables that result from credit sales to customers, reduced by an amount that is likely to be uncollectible
  4. *Inventories.* Contains merchandise inventory for a retail company; raw materials, supplies, work-in-process, and finished goods inventories for a manufacturing company. Companies disclose in the notes what inventory method(s) are used (e.g., first-in, first-out [FIFO] or last-in, first-out [LIFO] or average)
  5. *Prepaid expenses and other assets.* Includes resources paid for but not consumed yet, like prepaid rent, prepaid insurance, prepaid advertising, and supplies

- *Equity method investments.* For Coca-Cola, this includes "investments in companies in which we have the ability to exercise significant influence [traditionally 20%–50%] over operating and financial policies, including certain investments where there is a temporary majority interest." The equity method involves recognizing a share of the net earnings of investee companies (subsidiaries) in the income of the investor (Coca-Cola)