Corporate Valuation

A Guide for Managers and Investors

Daves • Ehrhardt • Shrieves

Corporate Valuation: A Guide for Managers and Investors

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Mike Ehrhardt is the Paul and Beverly Castagna Professor of Investments at the University of Tennessee at Knoxville. Dr. Ehrhardt did his undergraduate work in Civil Engineering at Swarthmore College. After working several years as an engineer, he returned to graduate school and received an M.S. in Operations Research and a Ph.D. in Finance from the Georgia Institute of Technology. He has taught extensively at the undergraduate, masters, and doctoral levels in the areas of investments, corporate finance, and capital markets. He has directed and served on numerous dissertation committees. He is a member of the team that developed and delivers the integrative first year of the MBA program. Dr. Ehrhardt was the winner of the Allen G. Keally Outstanding Teacher Award in the College of Business in 1989, the Tennessee Organization of MBA Students Outstanding Faculty Member in 1998, the College of Business Administration Research & Teaching Award in 1998, and the John B. Ross Outstanding Teaching Award in the College of Business in 2003. Much of his research is in the areas of corporate valuation and asset pricing models, including pricing models for interest-rate sensitive instruments. His work has been published in numerous journals including *The Journal of Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of Applied Corporate Finance*, *Financial Management*, *The Financial Review*, *The Journal of Financial Research*, and *Journal of Banking and Finance*. He is the author of *The Search for Value: Measuring the Company's Cost of Capital*, published by the Harvard Business School Press. He is a coauthor of *Financial Management: Theory and Practice*, the market-leading MBA finance textbook, and *Corporate Finance: A Focused Approach*, a more focused textbook that can be covered in a single semester. Dr. Ehrhardt teaches in executive education programs and consults in the areas of corporate valuation, value-based compensation plans, financial aspects of supply-chain management, and the cost of capital.

Ronald E. Shrieves is the William Voigt Professor of Business and Finance at the University of Tennessee at Knoxville. He received his Ph.D. in Business Economics from UCLA, where his Ph.D. thesis dealt with the determinants of inter-industry differences in research and development efforts. Dr. Shrieves was a finalist for the John B. Ross Award for Outstanding Teaching in the College of Business in 1993–94 and for the College of Business Administration Teaching and Research Award in 1998–99. He has published widely in finance and economics journals including the *Journal of Empirical Finance*, *Review of Economics and Statistics*, *Journal of Financial and Quantitative Analysis*, *Financial Management*, *Journal of Banking and Finance*, and *Journal of Financial Services Research*. Dr. Shrieves has received two best paper awards for academic journal articles. In 1993, along with coauthor Drew Dahl, he was honored with the Iddo Sarnat Award for the best paper in the *Journal of Banking and Finance*. In 2001, he and coauthor John Wachowicz received the Eugene L. Grant Award for the best paper in the *Engineering Economist*. Dr. Shrieves' primary current research interests are in the areas of the corporate governance and the impact of organization structure and regulation on commercial bank performance. In addition to teaching responsibilities in the undergraduate, MBA, and Ph.D. programs, Dr. Shrieves has also taught in two executive MBA programs: the Taiwan Executive MBA and the Professional MBA. The executive MBA programs have an interdisciplinary perspective, involving an integrated team-teaching approach to executive education.

Preface

We believe corporate valuation is important for all finance students, all managers, all financial analysis, and all individual investors. We especially believe that our focus on "fundamental" valuation analysis is vitally important because the process of projecting financial statements and cash flows requires the analyst to identify and understand a company's fundamental value-drivers. Thus, the insights gained through fundamental analysis are exactly those needed by investors who are searching for undervalued stocks and by corporate managers who are striving to maximize their company's value.

There are other books on corporate valuation, but they are extremely difficult to read and apply unless you already have a strong knowledge of accounting and finance. Our objective in *Corporate Valuation: A Guide for Managers and Investors* is to create a book that can be understood by someone with only a modest background in accounting and finance. We accomplish this through an iterative approach in which we first provide the reader with a complete valuation framework as applied to a very simple company. We then build the reader's skills by extending the analysis to value a series of increasingly complex companies. Finally, we lead the reader through a valuation of an actual company with the user-friendly spreadsheet-based valuation model that is available at the book's web site, **http://daves.swlearning.com**.

The valuation model is structured to guide the user through the entire valuation process, beginning with the input of actual historical financial statements from a variety of sources. The model then guides the user through an in-depth analysis of the company's current and historical financial position. After this analysis, the model provides a structured framework for estimating the cost of capital and the inputs required to project financial statements. Using the projected statements, the model calculates expected future free cash flows and discounts them to find the current estimated fundamental stock price.

We provide detailed explanations throughout the analysis for accessing and using data available on the Internet, especially the data provided through the Thomson ONE-Business School Edition, available to purchasers of this book.

Intended Market and Use

Corporate Valuation can be used as a supplement for investment and corporate finance courses, at both the graduate and undergraduate levels. It can also be used by general managers and finance professionals, as well as individual investors.

Investment and Corporate Finance Courses

Our book is ideally suited for investment courses that emphasize fundamental valuation or corporate finance courses that cover corporate valuation, merger analysis, financial strategies, or value-based management. Its strength relative to standard texts is its emphasis on understanding and using financial information to provide insights into the way corporate strategic choices affect a company's value.

Managers and Finance Professionals

General managers can use the book's model to estimate the impact their decisions have on the value of their company, particularly with respect to decisions that affect more than one functional area in the company, such as supply chain management. For example, it is easy to measure the costs but not the benefits of many strategic initiatives, because the costs are usually incurred by a particular operating unit whereas the benefits accrue to the entire company. The corporate valuation model explained in this book is an especially useful tool for evaluating such situations having localized costs but global benefits.

Financial managers can use the spreadsheet model to estimate the value of potential acquisitions and divestures, conduct long-term financial planning, identify future capital requirements, and evaluate potential compensation systems.

Financial analysts who are charged with making buy/sell recommendations can use the valuation spreadsheet as a part of their analyses. The model can also be used by any other analysts who must estimate the value of a company, including accountants who estimate the value of privately held companies for tax purposes.

Individual Investors

Finally, *Corporate Valuation* is ideally suited for individual investors who wish to use their own judgment in picking stocks for their portfolios. With our emphasis on building the necessary financial skills and accessing the relevant data, individual investors can use the same techniques as professional analysts.

Key Features of the Text

Following are some key features:

1. **Corporate Valuation Spreadsheet Model.** As described earlier, *Corporate Valuation's* web site has user-friendly corporate valuation Excel spreadsheet models that allow students to conduct their own valuation analyses.
2. **Thomson ONE-Business School Edition.** Purchasers of the book receive access to Thomson ONE-Business School Edition, provided by Thomson Financial, a global leader in financial information. Thomson ONE provides downloadable financial statements in Excel worksheets for 500 well-known companies, which can be pasted into the book's valuation model. Thomson ONE also provides I/B/E/S earnings estimates, ratio comparisons with peer companies, Datastream stock prices, Thomson Financial market data, Worldscope market data, and current company news.
3. **End-of-Chapter Excel Spreadsheet Projects.** The first eight chapters have a series of Excel spreadsheet projects that develop students' spreadsheet skills as well as valuation expertise. The remaining chapters have spreadsheet projects that lead students through the valuation of actual companies.
4. **PowerPoint Presentations.** PowerPoint presentations are available for each chapter. These presentations provide a structured way for an instructor to cover each chapter's material.

5. **Instructional Audio/Video Files.** The book's web site has a series of instructional audio/video files that lead the viewer through a complete valuation analysis using the book's spreadsheet valuation model. These files are available in two formats, either as stand-alone files that may be viewed without any additional software or as AVI files that may be viewed through widely available software such as Windows Media® Player or RealPlayer®.
6. **Supplementary Web Materials.** The book's web site has resources to help readers conduct their own valuation analyses. These include answers to *Frequently Asked Questions* and a section containing *Tips and Advice for Using the Corporate Valuation Model*.
7. **Instructor's Resources.** In addition to the previously described features that are available to all students, the book's web site has additional resources available only for instructors, including solutions to all end-of-chapter spreadsheet projects.

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We especially want to thank our families, who have supported us during the many, many hours we have worked on this project.

Conclusion

Corporate valuation, with its importance to investment analysts and corporate managers, plays a vital role in promoting well-functioning financial markets and economically healthy business firms. Because it is so important, corporate valuation should be thoroughly understood by all investors and managers. However, this is easier said than done, because the topic is relatively complex and requires specialized skills and knowledge. We sincerely hope that *Corporate Valuation: A Guide for Managers and Investors* will help readers understand and conduct their own valuation analyses.

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PART 1

Basic Concepts of Corporate Valuation

Chapter 1

Why Corporate Valuation?

Introduction

You make financial decisions every day. If you're an individual investor, you make daily decisions to buy, sell, or hold stock. If you're a senior executive, you make critical strategic choices. If you're a manager, you make and implement operating decisions. If you are on the financial staff, you regularly evaluate potential acquisitions and divestitures. In each case, the success or failure of your decisions depends on whether you correctly identify, measure, and evaluate a firm's underlying sources of value. In a nutshell, your success depends on understanding corporate valuation.

Despite its obvious importance to individual investors and corporate managers, corporate valuation was until recently an arcane science, limited to a select few at investment banks and brokerage firms. If you're old enough to remember the movie *Wall Street* or the book *Barbarians at the Gate*, then you probably remember investment banker analysts portrayed as quantitative whizzes running sophisticated computer programs that sifted through mountains of data to determine an offer price. Stock analysts employed by brokerage firms used the same complex set of analytic methods to produce their buy and sell recommendations. Whether conducted by financial analysts or investment bankers, valuation analysis required long years of training in quantitative methods, sophisticated computer technology, and access to large, proprietary databases. These requirements formed an insurmountable barrier to ordinary investors and corporate managers, preventing them from performing their own analyses.

But we have good news for you. Almost all individual investors, executives, and managers now have desktop computers or laptops with more power than the mainframe supercomputers of a decade ago. Powerful but easy-to-use spreadsheet software is standard on these computers, and financial data and information are now just a click away on the Internet. Many web sites are free, but because you bought this book, you have access to Thomson ONE-Business School Edition. This combination of hardware, software, and data levels the playing field and makes it possible for you to conduct an in-depth corporate valuation. If you are an individual investor, you can now do your own valuations, identifying the upside potential and downside risk of your investments. You can also evaluate the management teams behind your stocks, and vote with your feet if performance is not what it should be.

If you are a manager, you can now easily use the same analytic tools that Wall Street uses. You can quickly analyze all of your decisions with the same attention that was once reserved only for high-profile mergers and acquisitions. Not only will corporate valuation tools help you improve your decisions and increase the value of your firm, but your own wealth may also increase, if you are among the many managers today who are compensated with stock options or bonuses that mirror stock performance.

Whether you are an analyst, an individual investor, or a corporate manager, don't get too excited just yet! Acquiring the skills explained in this book will take a bit of serious effort on your part. But don't get discouraged, either, because we have made this as easy as possible for you by presenting the concepts and tools in a step-by-step approach with lots of examples.

Our Goals

Corporate valuation techniques have progressed at a rapid pace over the last three decades. Within the last few years, the financial community has reinvented investment valuation, creating new analytical measurements such as free cash flow, return on invested capital, and economic value added. Of course, there is vigorous competition among investment bankers and various consulting groups, each promoting its own trademarked variation of valuation analysis, and each claiming to offer the best approach.

Our objective in writing this book is to provide investors and managers with the basic knowledge necessary to value an entire company or a division of a company using a model that is nonproprietary, understandable, and, most importantly, easily implemented by any financial manager or investor.[1] To accomplish this, we focus on the free cash flow (FCF) valuation framework and implement it in Microsoft® Excel. No model is useful without accurate data for inputs, so throughout our discussion we incorporate references to easily accessible online data sources, particularly Thomson ONE-Business School Edition. Our examples demonstrate how these sources can be used to identify a company's underlying sources of value, determine its "leverage points," and estimate its fundamental value.

The model we develop can be used in a variety of ways. Investors can use it for identifying undervalued stocks and those with the most growth potential. They can also use it to critically assess the quality of any professional investment advice they receive. Managers can use this model to make better business decisions for their companies, performing useful "what if" analyses of alternative decisions. And by applying it to their customers or suppliers, managers can also use it to gain insight into the companies with which they negotiate.

In summary, our goals are to explain the concepts underlying corporate valuation and to develop a comprehensive spreadsheet-based valuation model that you can use for investment analysis and financial decision-making. We'll begin slowly, explaining the concepts and the spreadsheet applications one step at a time. With this approach, you'll understand how the model is designed, programmed, and implemented from the ground up. This comprehensive model, combined with a knowledgeable user, is a powerful tool and will enable you to make better investment and business decisions.

[1]As we stated in the Preface, the same valuation principles apply to all companies, even financial institutions and start-up companies. However, the application is more complicated, and so we focus on nonfinancial companies that have matured beyond the start-up stage.