CORPORATE VALUATION

FOR PORTFOLIO INVESTMENT

ANALYZING ASSETS, EARNINGS, CASH FLOW, STOCK PRICE, GOVERNANCE, AND SPECIAL SITUATIONS

ROBERT A. G. MONKS
ALEXANDRA REED LAJOUX

FOREWORD BY
DEAN LeBARON

CORPORATE VALUATION FOR PORTFOLIO INVESTMENT

Analyzing Assets, Earnings, Cash Flow, Stock Price, Governance, and Special Situations

ROBERT A. G. MONKS
ALEXANDRA REED LAJOUX

FOREWORD BY DEAN LEBARON

BLOOMBERG PRESS
An Imprint of

Copyright © 2011 by Robert A. G. Monks and Alexandra Reed Lajoux. All rights reserved.

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

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, (978) 750–8400, fax (978) 646–8600, or on the Web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748–6011, fax (201) 748–6008, or online at http://www.wiley.com/go/permissions.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor author shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages.

For general information on our other products and services or for technical support, please contact our Customer Care Department within the United States at (800) 762–2974, outside the United States at (317) 572–3993 or fax (317) 572–4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books. For more information about Wiley products, visit our web site at www.wiley.com.

ISBN 978-1-576-60317-8 (cloth); ISBN 978-0-470-88074-6 (ebk);
ISBN 978-0-470-93675-7 (ebk); ISBN 978-0-470-93676-4 (ebk)

Printed in the United States of America
10 9 8 7 6 5 4 3 2 1

To John P. M. Higgins, who has for a half century explored with me the challenges of valuation.—RAGM

To Stella Swingle Reed, who taught me the value of perseverance.—ARL

Contents

Foreword by Dean LeBaron xiii
Preface xvii
Acknowledgments xix

1 Corporate Valuation for Portfolio Investment: A Philosophical Framework 1

Valuation Defined 2
The Importance of Equity 4
Equity Defined 4
Articles of Faith Undermined: Securitization at Risk 5
Benefits of the Equity Marketplace 8
The Flexible Nature of Equity Capital 8
Long-Term Superiority of Equity over Debt—with a Caution about Volatility 9
The Focused Nature of Valuation for Investment 11
Two Main Sources of Information about Equity 12
Financial Reports: Issues with GAAP and IFRS/IAS 12
Sources of Complexity in Accounting for Company Value 13
Reforming GAAP and IFRS 15
The Problem of Fair Market Value: Reporting Values for Securities with No Current Market 17
Three Studies 18
The Need to Read between the Lines 19
Human Nature Complicates (but Also Informs) Equity Valuation 19
George Soros's Concept of Reflexivity 21

Other Paradoxes in Equity Investing 22
The Observer Effect 24
Human Nature as the Key to Equity Value 24
Need for Expression in Currency Values 25
On Financial Mathematics 26
In Closing: About This Book 28
A Range of Approaches 30

2 Valuation Based on Assets 47

Overview of Assets as a Unit of Valuation 48
An Opening Caveat: The Limitations of Accounting Numbers 51
Accounting Numbers: Why Assets as a Starting Point? 52
Definition of an Asset 53
Flow-Dominant vs. Value-Dominant Assets 55
The Market Premium and Nonmarket Discount 56
Bear Stearns: A Cautionary Tale 58
The Asset-Focused Investor 59
Current Asset Value 60
Taking Clues from Assets 62
The Sykes Model 66
Beyond Assets: Clues from Liabilities and Equity on the Balance Sheet 67
The Role of the Appraiser and Appraisal Standards in Valuing Assets 69
Fair Market Value Treatment Assets 70
Fair Value of Assets under FASB (GAAP) and IASB (IFRS) 70
Valuing Intangible Assets on the Balance Sheet 72
Valuing Intangible Assets That Are Not on the Balance Sheet 73
Using the MD&A for Insights on Assets 77
Improvements in Fair Value Disclosures: A Checklist for Investors 78
Asset-Based Valuation by Industry 79
Special Topics in Asset Valuations: Valuing Assets in Pension Plans 83
Lens Check 84
Conclusion: Asset Values in Bailouts 86
Appendix 2.1: Common Ratios, Multiples, Averages, and Algorithms Based in Assets—and Examples of Their Use 86
Appendix 2.2: Asset-Based Approach to Business Valuation (American Society of Appraisers) 90

3 Valuation Based on Earnings (Income) 103

Earnings Defined 103
Types of Earnings 104
Operating Earnings Are Key to Value 106
Earnings Are Relative to Revenues and Expenses 108
Earnings Are Ultimately Based on Assets 108
Hard Times Reveal Earnings-Asset Connection 110
How the Standard Setters Currently Define Earnings 111
A Brief Pause to Look at Our Compass 114
The Other Side of the Equation: Revenues Minus Expenses 114
How XBRL Can Connect the Dots between Earnings and Assets 116
Earnings Management and Fraud 117
Earnings Caveat from a Sage 118
The Quality of Earnings 119
Models to Assess Earnings 122
Earnings Guidance: A Waning Trend? 124
Consensus Earnings Programs 124
Earnings Examples 126
EPS: An Emerging Standard 128
Earnings-Based Valuation by Industry 129
Impact on Industries of New Global Accounting Standards for Revenue Recognition 132
Is a New Earnings Measure Needed? 133
Lens Check 133
Conclusion 134
Appendix 3.1: Hoover's Definitions of Basic Income Statement Terms 134
Appendix 3.2: Ratios and Other Valuation Indicators Using Earnings 138
Appendix 3.3: Net Income Example 144

4 Valuation Based on Cash Flow 155

Cash Flow Statements—Something Old, Something New for Investors 156
Value and Liquidity 157
Cash Flow: What the Global Standard Setters Say 157
What the Cash Flow Statement Shows 158
Accounting Note: Converting an Indirect Method Statement of Cash Flows to a Direct Method 161

DCF: Projecting Future Cash Flow 163
Crystal Ball: Two Kinds of Questions 164
Some General Methodologies for Considering Cash Flow 168
Cash Flow from Projects: What Investors Should Know 172
The Work of Alfred Rappaport 175
Using Monte Carlo Simulations for Future Cash Flow Estimates 175
Using Cash Flow to Calculate Amortized Cost 191
IFRS Impact on Cash Flow 191
Cash Flow Patterns in Industries 192
Lens Check 194
Conclusion 195
Appendix 4.1: AT&T Example 195
Appendix 4.2: ASC 230 Summary 200
Appendix 4.3: Summary of IAS 7 201

5 Valuation Based on Securities Prices 209

Overview of Securities Prices 210
Definition of Stock Price 211
Seven Basic Points of Departure to Determining the Value of a Security 213
Approach 1: Ratios or Formulas That Include Stock Prices 214
Approach 2: Technical Analysis of Stock Price Movements 216
Approach 3: Analysis of Values According to Efficient Market–Random Walk Hypothesis 226
Approach 4: Stock Valuation Based on Expectations 228
Approach 5: Valuations Implicit in Algorithmic Trading 229
Approach 6: The Black Swan Approach to Stock Price Valuation 230
Approach 7: Reflexivity Theory and Stock Values 231
An Overview of Chaos/Complexity Theory 234
Securities Valuation as an Asset on the Balance Sheet 236
The Duff & Phelps Valuation Model 236
Revisiting Mark-to-Market 238
Can We Bring Back the Equity Premium? 241
Reconnecting with the Good Old Capital Asset Pricing Model 243
Stock Price Patterns in Industries 244
Lens Check 244
Conclusion 245

6 Hybrid Techniques for Valuation 255

Building vs. Buying a Model 255

A Word about Building a Model within a Model 257
Words of Caution 258
Fourteen Approaches 258
Using Metrics to Measure Management 270
A Basic Distinction: Residual Income vs. Discounted Cash Flow 271
Out-of-the-Box, or Generic, Valuation Models 272
Reconciling the Balance Sheet and Income Statement 273
Reconciling the Income Statement to the Statement of Cash Flows 275
A New Balance Sheet Metric 277
Use of Hybrid Valuation Approaches in a Key Industry: Energy 278
Concluding Caveat and a Fifteenth Model 281
Appendix 6.1: National Standard Company: Description of Bonus Plan Based on EVA 282

7 Market Value Drivers of Public Corporations: Genius, Liberty, Law, Markets, Governance, and Values 291

The Nonmarketability Discount 292
Six Key Elements 292
Element 1: Genius 293
Element 2: Liberty 300
Element 3: Law 302
Element 4: Markets 306
Element 5: Governance 308
Element 6: Values 314
Long-Term Investing 324
A Note on Valuation for Divestment 326
Conclusion 327
Appendix 7.1: Rating Governance 328
Appendix 7.2: Enhanced Business Reporting Framework 335
Appendix 7.3: The Caux Round Table Principles 339
Appendix 7.4: Trucost 343

8 Situational Valuation: Equity Values throughout the Corporate Life Cycle 367

Scenarios 367
Valuation of Shares under Public Policy Pressure: A Story *in Medias Res* 368
Valuation of Shares at Par (or No Par) 369

Valuation of Shares in IPOs and Secondary Offerings 369
Valuation of Shares upon the Declaration of a Dividend or a Stock Split 371
Valuation of Shares in Buybacks 371
Valuation of Shares in Companies with Underfunded Defined Benefit Pension Plans 372
The Example of Endowments 373
Valuation of Shares Tendered, Exchanged, or Retained in Mergers or Acquisitions 375
Valuation of Shares in Spin-Offs and Divestitures 382
Valuation of Shares Impacted by Shareholder-Led Governance Changes 383
Valuation of Shares in Companies in the Zone of Insolvency or Filing for Bankruptcy 385
Valuation of Shares in Companies Emerging from Bankruptcy 387
Conclusion 388

9 Conclusion 395

Need for Humility in Valuation 395
A True Beauty Contest 396
No Single Definition for Valuation 397
A Word about Genius 398
Real Impact 399
A Need for Investor Talent 400
Looking for the Story 401
On the Social Impact of Corporations and Investors 402
Work in Progress 403

Appendices

A Equity vs. Debt Securities: A Global Definition 407

B Basic Accounting Concepts for Corporate Valuation 411

Summary of Tentative Global Accounting Decisions on Objectives and Qualitative Characteristics of Accounting 411
Accounting Principles: U.S. GAAP 416

C Convergence of Global Standards: FASB, IASB, and Their Joint Standards as of June 1, 2010 421

Current Technical Plan and Project Updates for Joint FASB-IASB Projects in 2010 and 2011 421

D Report to the Congressional Oversight Panel Regarding Fair Value of Certain Securities and Warrants Acquired by the Treasury under TARP 427

A. Introduction 428
B. Engagement Overview and Procedures 428
C. Valuation Methodologies Overview 430
D. Summary of Findings 437
E. Assumptions, Qualifications, and Limiting Conditions 439
Addendum 441

E The Use of Mathematics in Finance 443

Types of Mathematics Used in Corporate Valuation 443
Statistics 448
Histograms 451
Geometry and Trigonometry 451
Conclusion 452
Symbols Used in Financial Mathematics 452

F The Modigliani-Miller Theorems 461

Modigliani-Miller Propositions 462

G Uniform Standards of Professional Appraisal Practice (USPAP) 467

Standard 9: Business Appraisal, Development 467

H Global Industry Classification Standard (GICS) Sectors and Industry Groups 473

I Damodaran Spreadsheets for Valuation 475

J Monte Carlo Simulation for Security Investments 479

Volatility and Time Horizon Exercise 481

K Antivaluation! Human Valuation and Investment Foibles 483

Some Common Biases in Valuation Choices 483
Some Common Fallacies in Valuation Reasoning 486
Aristotle's 13 Fallacies 487

L Fair Value Measurement of Derivatives Contracts 491

M **Final Report of the Advisory Committee on Improvements to Financial Reporting to the United States Securities and Exchange Commission** **493**

1. Substantive Complexity 493
4. Delivering Financial Information 496

N **Valuing Values** **501**

The Methodological Challenge 502
Economic Value and Social Value 503
Financial Investing vs. Social Investing Tools 508
Valuing Values 512

O **XBRL Guidance** **515**

What Is XBRL? 515
How Can Investors in Companies Using U.S. GAAP Locate and Use XBRL Information? 516

P **Pension Fund Valuation Guidance** **521**

Q **Stock Indexes** **525**

R **U.S. Business Cycle Expansions and Contractions** **527**

S **Wisdom from Norway: Two Speeches from a Norwegian State Pension Plan Inspire a Long-Term View** **531**

From Oil to Equities: Knut N. *Kjær* 531
Investing for the Long Term: Governor Svein Gjedrem 532

Recommended Reading on Corporate Securities Valuation **539**

Index **541**

Foreword

A small fraction of cohorts who lived through the age of the Nifty 50 still tackle important problems. We don't know that the torch has been passed, as an earlier president reminded us. We forgo shuffleboard and leisure suits for writing and mounting platforms on issues that we believe to be important—where we can bring our personal experiences to bear and where our voices will remind others that we bring personal history, energy, and foresight to vexing problems. Bob Monks is the archetype of the group.

We will get to his capabilities shortly, but let us first examine Bob's courage to tackle a really big topic: the valuation of securities. It is as big a subject as they come, running in multidimensions from qualitative to psychological, from static to dynamic, from one dominant measure to a complex soup, and using measures that range from those that are internal to the observer to those determined by the markets. He categorizes the enduring tussles between momentum speculators and fundamental investors (as they often label themselves) and bravely wades into academe and critically tackles anyone, from Nobels to postdocs. Nothing escapes his attention.

Many investors aspire to universal skills, often proclaiming to be rotating specialized investors in the changing days of one valuation mode to another. In truth, most of us adopt a valuation scheme that is suited to the nature of our psyche. We search for nomenclature that proclaims its wisdom; we quest for indices that illustrate our brilliance; and we market . . . oh, we really market.

In *Corporate Valuation for Portfolio Investment,* Bob and his worthy coauthor (more later) cover the full range of valuation methods. We are

reminded how narrow most of our outlooks really are. Our normal style as investors in public securities, usually as fiduciaries investing for others, is to examine, select, implement, measure, and report . . . with some ingredient of hope and justification. But Bob's stamp on this book is clear. As in life, so in this book he goes to a rare and important next step. He adds the active behavior of someone who behaves as if he owns the entire business and sends a message to institutional shareholders who tend to rely on buying or selling to express their views to management.

He and I reached the same conclusion independently at about the same time, he as assistant secretary of labor for ERISA [Employee Retirement Income Security Act], and I while chairing a governance committee at the Securities and Exchange Commission. Back in the private sector we shared valuation insights, models, and spreadsheets. I went the next step in aggressively voting against directors who supported protective measures against shareholders and announced our actions—practices unheard of at the time. Bob started an investment management enterprise, the Lens Fund, to invest in potential target companies, announcing plans for some to improve their accountability to owners. Whereas institutional investors typically vote proxy statements with management, without even knowing the individual positions of directors receiving their endorsement, Bob makes his views known. He lays out a clear program.

He is an active investor in large publicly traded securities that need, but normally fail to get, attention from investors who take a position and then aggressively attempt to change companies in directions of greater value. Thus, his focus on valuation is a natural complement to his governance activities. He has to know how to start at a low enough price to provide a cushion for the time it takes to implement his approach. He is usually attracted to a yield sufficient to finance his efforts. He has to develop a cogent program that has not been adopted by the directors charged with just that job. And, finally, he has to have the credibility to make it work. The list of major companies who have felt his attention looks like a typical high-quality list, but the members of that list are better now in hindsight than when Bob and his staff first visited them.

Rarely do companies welcome the interference from someone who proposes to alter their clubby atmosphere. But his investment record is a clue that his ideas, when implemented, work. From its founding in 1992 until it became part of the Hermes Pensions Management group in 2000, activities of the Lens Fund were followed by such august publications as

Barron's and the *New York Times*. As noted in the *Times*: "Lens's investing style pays. In six years of operation, through Dec. 30, 1998, it returned 25.1 percent a year, on average, compared with 20.5 percent for the Standard & Poor's 500-stock index." Well-known shareholder activists like Boone Pickens and Carl Icahn are disruptive and make their intentions to fire managements well-known. It is not surprising they would be met by vigorous objection. Bob Monks, on the other hand, comes in with a plan that can be implemented by the existing management. His proposal is more about accountability than disruption. He too meets with objection but less so than others storming the corporate gates with devastating firepower.

Bob's colleague in this endeavor, Dr. Alexandra Reed Lajoux, brings her own long history to the quest for better approaches to corporate valuation. Alex, who has served as editor of a variety of influential business periodicals, is the lead author of *The Art of M&A* series of books and, through these and her many other writings, is an ardent proponent of the overarching principle of stewardship and long-term sustainable value creation.

Bob and Alex wrote in the Preface: "We wrote this book to advance world prosperity by explaining how to determine the value of corporate equity securities for the purpose of portfolio investment." Together, with records of success improving corporate accountability in their hip pockets, they are ready to storm—tactfully—the barriers to full understanding of what constitutes sustainable value.

DEAN LEBARON
Adventure Capitalist

BOSTON AND ZURICH
DeanLeBaron.com

Preface

We wrote this book to advance world prosperity by explaining how to determine the value of corporate equity securities for the purpose of portfolio investment.

A number of recent changes have made this subject lava hot: international accounting conundrums, massive transformations making both forward and backward comparisons meaningless, low inflation with rumors of deflation, and—now—government-created assets and earnings! These volcanic trends have brought equity valuation nearly to a meltdown. Yet certain truths remain.

Equity capital provides two main benefits: a flexible funding option for companies and superior returns to investors compared to debt. But unless an investor can buy every stock and hold all stocks for decades, the long-term, general superiority of equity over debt is of little use. To take advantage of equity's power, investors must learn how to put *a precise value on a specific stock for a specific investment period*.

This book advocates a multidimensional approach to equity value, asserting that value exists only in specific temporal and situational contexts. This said, the "default setting" for investment appropriately remains an intelligent investor considering public equity securities as a choice among alternatives.

Corporate valuation for portfolio investment means determining the present value of future worth. There are two main sources of information about the worth of a stock: financial reports and the stock's current trading price.

Financial reports contain riddles that must be decoded by the valuation-minded investor. The first step in valuation for investment is to bridge the gap between current valuation in financial reports and the future value of the company for investment purposes. Despite the work of numerous groups to reform generally accepted accounting principles (GAAP) and their global equivalent, international financial reporting standards (IFRS), financial reports remain only dim mirrors of company value. Sources of complexity in GAAP/IFRS accounting include variation in accounting models, scope exceptions, mixed attributes, and bright line standards.

All this requires reading between the lines. And the main message is that equity securities are difficult to value in part because both companies and the markets that trade in their equity are living human systems prone to self-deceptive traits that militate against pure valuation logic.

Paradoxically, however, human nature, which makes the valuation of equity so difficult, is also the fundamental reason for the superiority of equity. Value-minded investors can put a financial value on the greatest contributor to securities' value: long-term corporate action based on vision. To do so, however, requires a multifaceted approach to valuation, including both respect for quantitative fundamentals and an appreciation for qualitative complexity.

This book, intended for the professional investor building an investment portfolio that includes equity, takes the reader through a range of approaches, including those primarily based in assets, earnings, cash flow, and securities prices, as well as hybrid approaches. It also discusses the importance of qualitative measures that we call "governance" (going well beyond GAAP/IFRS) and addresses a variety of special situations in the life cycle of businesses, ranging from initial public offerings to bankruptcies.

In the process, the book offers formulas, checklists, and models that we and others have found useful in making equity investments. As long as investors thoughtfully use a variety of tools to make their investments, corporate securities will continue to generate wealth for their owners and for society at large.

Acknowledgments

MANY INDIVIDUALS HELPED us write our tome; the chapter endnotes name them. But special acknowledgment goes to those who corresponded with us and/or consented to be interviewed during the actual writing of this book (January 2008–June 2010).

Matthew Bishop, bureau chief for *The Economist*, New York
Steve Brown, founding partner and chief investment officer, Governance for Owners, London
Paul Druckman, chairman, Executive Board of The Prince's Accounting for Sustainability Project, London, United Kingdom
Robert Ferris, executive managing director, RF|Binder, New York
Phillips Johnston, analyst, Dawson Herman Capital, New York
John P. M. Higgins, president and chief investment officer, Ram Trust Services, Portland, Maine
Dean LeBaron, founder, Batterymarch Financial Services, Geneva, Switzerland
Rocky Lee, partner and head of Asia Venture Capital and Private Equity, DLA Piper, Hong Kong
Colin Meyer, dean, Said School of Business, Oxford University
Deborah Hicks Midanek, principal, Solon Group, New York
Lester Myers, professorial lecturer, Georgetown University
Mark Mills, director, Generation Management, London
Paul Pacter, IASB, Hong Kong and London
Al Rappaport, cofounder, LEK-Alcar Consulting Group, La Jolla, California

Anthony Riha, vice president, Bowne Asia, Beijing
George Soros, founder, Soros Fund Management, New York
Allen Sykes, economist and author, London
Raj Thamotheram, senior adviser, Responsible Investment, AXA Investment Managers (AXA IM), Paris
Simon Thomas, chief executive, Trucost, London
Stephen Young, executive director, Caux Round Table

We would also like to acknowledge the encouragement and guidance that we received from the Bloomberg Press team that launched this project, including JoAnne Kanaval, Stephen Isaacs, Mary Ann McGuigan, and Fred Dahl. We also thank the professionals of John Wiley & Sons, including Bill Falloon, Emilie Herman, Tiffany Charbonier, and Todd Tedesco. Artist Mary Graham (mary@oakinsights.com) helped illustrate some of the concepts we discuss in Exhibits 2.1, 5.1 through 5.11, and 6.1. We are grateful for her unique combination of mathematical, artistic, and technical genius. The contributions of these individuals, as well as many others, prove an important point: published books convey knowledge at a level the blogosphere will never match.

Bob extends special thanks to his colleagues Nell Minow, Ric Marshall, Sylvia Aron, and Christine De Santis for their usual superb help.

Alexandra thanks her family, friends, and colleagues past and present at the National Association of Corporate Directors.

CHAPTER 1

Corporate Valuation for Portfolio Investment

A Philosophical Framework

EQUITY SHARES must be valued—but how? It may seem that sophisticated financiers have taken over valuation. The phrase "equity valuation" may conjure up visions of financial specialists feeding numbers into algorithmic programs, relentlessly making buy, sell, or hold decisions unrelated to the operating realities of businesses or to understandable economic concepts such as replacement value.[1]

A great deal of controversy surrounds the mathematicians and physicists (aka "quant jocks") on Wall Street. Some blame them for the economic problems of the first decade, noting their complex trading programs that, once automated, accelerated doomsday events for markets.[2] Others say that the quant jocks boosted the overall intelligence of the market by introducing new and sensible ways of looking at risk and return, pointing out that they were among the first to warn against the crisis.[3] In fact, sophisticated trading programs do have a role to play, but the programs must be based on sound principles. Sophisticated trading activities are the symptom, not the substance, of stock valuation.

In fact, valuation begins from the hour a company's leaders find equity investors who believe so strongly in the company's economic prospects that they are willing to provide capital for it, no strings attached. This belief in a company's future—in a word, *hope*—is what makes the value of the stock something more than the current value of all its assets, if sold in a fire sale. Combined with the investor's own time horizon for a return, hope is the key to securities valuation. Vision and time are the alpha and omega.

Valuable vision is what propels a company's stock into the marketplace; it is what preserves the value of the stock in spite of market chaos. Understanding this concept requires an integrated theory of valuation that includes consideration of assets offset by liabilities, of income, of cash (liquidity), of securities market dynamics, and of comparable pricing. Understanding also requires consideration of what we call *stories*—meaningful information beyond the financial statements and market prices. This book is structured accordingly.

Of course, not all investors base their trades on such an integrated framework for valuation. Some are index investors, some are algorithmic traders, and some are fund managers who buy assets based on classes of risk. In fact, fewer than half of all investors actually choose an investment based on the quality of a particular company.[4] It is for these happy few volitional, value-minded investors that this book is intended.

Cost/Benefit of Information Gathering

There is also the issue (which I found out in the S&P strat[5]) of the price of gathering data. One of the reasons such simple strats exist is the cost of gathering the information you need to implement them is fairly high compared to the payout. Would I be better off screen scraping all the livelong day to implement some lousy subjective strat with a low Sharpe[6] anyway? Or would I be better off getting a job at a bank, making a lot of money, and buying bonds?"

—Posted by Scott Locklin at the Algorithmic Traders Discussion Board on *LinkedIn.com*, April 19, 2009.

Valuation Defined

Valuation means determining a value for something. This book sets forth all the elements of a company that are to be valued and offers guidance on how to determine those values.

- *Corporate valuation* determines the worth of a corporation *today* (its present value); *valuation for portfolio investment* joins that

present value with a future value. As Al Rappaport said so succinctly in *Expectations Investing*, the key to successful investing is "to estimate the level of expected performance embedded in the current stock price and then to assess the likelihood of a revision in expectations."[7]

➤ *Expectation* is indeed a fitting word for the process of valuation for investment. "Valuation" comes from the Latin word *valere*—to be worth something in an exchange.[8] "Investment" derives from *vestire*—to clothe. It means exchanging money now for something that may offer more money in the future.

Valuation alone is relatively simple; *corporate valuation for portfolio investment* is complex. Valuation alone says A is worth *X* today. But valuation *for investment* says A is worth *X* today and *may be worth Y at a future date*. Valuation for investment means determining the present value of future worth.

Valuation is not a one-time event. It is a process. There is no one set of steps to value the stock of an existing public company, but it is generally agreed that the valuation journey proceeds with the following steps:

1. Select the item to be valued (the security).
2. Identify its current price (e.g., today's closing price).
3. Evaluate whether the current price is low, correct, or high.
4. Make a corresponding buy, hold, or sell decision based on the investor's own circumstances—including liquidity needs and the timing of those needs.

As part of step 3, the investor can adjust the values of price (step 2) based on six valuation matrices:

1. Time—Short term versus long term
2. Place—Market versus nonmarket
3. Slope—Level versus skewed playing field
4. Volition—Degree of willingness or unwillingness of the buyer or seller
5. Utility—Purpose (e.g., wealth versus liability collateral for a fund)
6. Quality—Level of certainty of return (high, medium, or low grade) based on investing standards

To get real value, one needs to pass each valuation through these six lenses. This paradigm appears throughout this book.

The Importance of Equity

Few financial topics matter more than equity valuation. Without the possibility of placing a reasonably accurate value on equity securities, there could be no equity marketplace. And without an equity marketplace, society would not have such a diversity of products and services. Some corporate undertakings are so long term and expensive that *only equity capital*—as opposed to operating capital or debt capital—can fund them.[9] Societal commitments such as payments made out of defined pension plans simply cannot be honored unless the obligated payor (the company or union offering the pension) has access to funding that can beat inflation at the level that equities have achieved historically.[10] It is no coincidence that these financial instruments are nicknamed "stock." For an equity market to function, the economy at large must "put stock" (trust) in equities and continually "take stock of" (measure) their value.

The presence of the federal government as an investor (discussed in Chapter 2) raises new issues in equity valuation: as the holder of the shares, will a government entity's focus be on financial return, as in the past, or on matters of broad social significance, such as jobs? There is some precedent for this concern at the state level. Public pension plans have at times made political rather than economic decisions.[11] In general, however, the equity investment decisions of pension plans are based on universally recognized financial principles. One of the purposes of this book is to articulate those principles so that equity valuation maintains its integrity as a discipline.

Equity Defined

First invented by Dutch and English traders some 500 years ago, the term "equity" or "stock" as a form of corporate financing has been part of the business world for half a millennium.[12] *Equity* is created when companies offer ownership stake to buyers, giving stock certificates in return for cash. The value of a company's equity (the number of shares times the current price per share) is its *market value*.

There is another kind of equity. It's the *accounting* kind, namely the dollar-value number remaining on the balance sheet after liabilities are subtracted from assets. This version of equity is also known as "net worth" or "book value." The accounting number is usually much lower than market value, but it can be used as a check on it because it is far less volatile.[13]

Regulators have done a good deal of hand-wringing over what equity is as opposed to debt. (See Appendix A.) In brief, equity represents ownership with potential for returns, while debt represents a claim entitling the holder to guaranteed payments.[14]

The issuance of equity securities brings two distinct values to an economy. For the company's management, the *sale* of equity securities can bring patient capital—funds that support growth without making fixed demands for return. To the company's investors, the *purchase* of securities can bring returns—a share in a company's total worth that grows in value as the company does.

Growth in share prices does not happen in each and every company, but it is common for all companies' stocks as a net total over any given 10-year period. Based on this general trend, Nobel Prize winners Franco Modigliani and Merton Miller asserted that the payment of dividends does not change the firm's market value: it changes only the mix of elements in the firm's financing. The Modigliani-Miller theorem has been true historically, but is it true today? If investors, over time, cannot count on share price appreciation, then the theorem would not hold; dividends would become indispensable for equity investors.

Articles of Faith Undermined: Securitization at Risk

When markets sustain shocks or experience long declines, it is hard for investors to maintain a reasonable expectation of share price appreciation. Such events not only undermine such expectations, but they also diminish faith in securities markets—and understandably so.

Take, for example, the turn-of-the-millennium scandals of Enron and WorldCom. Their share price decline was so rapid and unexpected that it fooled even fairly sophisticated investors.[15] In the space of half a year, two giants—large in market capitalization, book value, and revenues—lost almost all their value virtually overnight upon declaring surprise bankruptcies in late 2001 and mid-2002, respectively.[16]

A decade later, a new series of giants has fallen, including several Wall Street titans felled by the devaluation of securities backed by weak mortgages that went into default—the so-called subprime mortgage crisis. Following severe financial stress, Bear Stearns became part of JPMorgan Chase, and Merrill Lynch part of BankAmerica. Lehman Brothers Holdings sold off multiple divisions and declared bankruptcy. Even Goldman Sachs got heat from the meltdown when SEC made allegations of fraud in an April 2010 lawsuit, triggering shareholder lawsuits and sparking a subpoena from the Financial Crisis Inquiry Commission (FCIC).[17] By June 2010, Goldman's stock was trading at two-thirds its previous 52-week high, showing the heavy toll that companies pay for scandal.[18]

The events from Enron to Goldman bookend what has been called the "worst decade ever for equities," with an overall negative return of –3.3 percent, according to one study.[19] In this crisis, market prices experienced both artificial inflation and deflation, depending on circumstances. The securities of many companies that appeared to have high levels of capitalization, assets, and revenues should have been trading at *lower* prices, given economic realities. Conversely, in at least one case (Bear Stearns), short seller rumors (bordering on illegal activity) caused the firm's security price to plummet, even though the true value of those securities, absent false rumors, was arguably *higher* than their trading price.[20]

It's a well-known statistic that U.S. equities lost more than a third of their value in 2008.[21] Then, in 2009, the crisis continued for one quarter, dragged down by global financial stocks, and then began a slow recovery that continued into 2010.[22]

But this recovery was punctuated with caution. In a report dated May 7, 2009, four key banking regulators released the results of a "stress test" administered to 19 major banks. The report showed that more than half of them needed additional capital to insulate themselves against adverse scenarios. This news was not as bad as many investors had feared—shares rose in response—but gloom about the financial system persisted, weakening confidence in equity securities, not only those of financial institutions but of other companies as well.[23] In 2010, the European Union followed with the publication of their own banking stress test results.[24]

The subprime crisis and its seemly endless aftermath undermined confidence in equity securities in general. Long an engine of liquidity and

growth in free economies, securitization is coming under unprecedented scrutiny today. Structured finance, once the darling of financial economists, is getting a bad name.[25]

Speaking before the Council of Institutional Investors in April 2009, Federal Reserve Board Governor Kevin Warsh called the mortgage banking crisis a classic economic "panic." His riveting speech distinguished between recessions and panics:

> Fear. Breakdown in confidence. Market capitulation. Financial turmoil. These words are . . . indicative of *panic* conditions. In panics, once firmly held truths are no longer relied upon. Articles of faith are upended. And the very foundations of economies and markets are called into question.[26]

A footnote in his prepared remarks elaborated: "A panic involves a more insidious set of events in which risk aversion rapidly displaces confidence and individuals and institutions are forced to reexamine fundamentally their world views."[27]

And in a *Wall Street Journal* op-ed that same month, mutual fund guru John Bogle cast aspersions on securitization by including it in a list of alleged causes of the economic crisis, stating that it "severed the traditional link between borrower and lender."[28] Bogle may not have meant to tar all types of securities with the same brush he intended for mortgage-backed bonds. Nonetheless, his widely read column helped make securitization a taboo 14-letter word.

Whether their concern involves dollars and cents or broader issues of governance, by 2010 investors were still shying away from equities, despite the protections of a massive financial reform bill passed in June of that year.[29]

To be sure, equities did not suffer greatly in some economies. For example, the loss of equity values in Scandinavian countries was less precipitous than in other places. But why? Does a societal element come into play? Are certain social conditions associated with fragile equity values?[30]

This book helps investors ask and answer such questions as they analyze the value of corporate securities—starting with a look, right now, at the very raison d'être for equity securities in the first place.

Benefits of the Equity Marketplace

The issuance of equity securities brings two distinct values to an economy. For the company's management, the *sale* of equity securities can bring patient capital—funds that support growth without making fixed demands for return. To the company's investors, the *purchase* of securities can bring returns—a share in a company's total worth that grows in value as the company does. It may be useful to elaborate on each of these points.

- *Flexible funding*. Without equity capital, all companies would be forced to operate at a sustained level of profitability or seek debt funding, pledging regular repayment according to the terms of their loans or bond offerings. This type of discipline can be good for companies, but it limits their flexibility. Equity securities markets provide a uniquely flexible source of capital for companies with long-term vision, enabling them to employ and reward people for creating new technologies, products, and services that require a long start-up phase. Thanks to the ability to sell equity to choice-driven (or algorithm-driven), thinking investors,[31] companies can generate the extra funds they need over time and under changing circumstances to pursue long-term goals—goals they might not be able to fund by making a profit on their sales, taking out loans, issuing bonds, or, exceptionally, selling troubled assets to the government.
- *Superior returns to shareholders*. At the same time, equity (or stock) investments represent a special financial opportunity for investors, especially institutional investors that need to generate relatively high returns over long periods of time in order to overcome the ravages of time,[32] especially during periods of high inflation.[33] If institutional funds were limited to investments in debt securities, they would have less of a chance for high returns over time. Although some debt securities have a feature that guarantees a percentage return that exceeds the rate of inflation, not all do, and returns from such vehicles are still relatively low.[34]

The Flexible Nature of Equity Capital

The flexibility of equity capital (compared to the obligations of debt capital) may be taken for granted after more than 500 years of use, but