

Cost of Capital

FOURTH EDITION

WORKBOOK AND
TECHNICAL SUPPLEMENT



WITH WEBSITE

Shannon P. Pratt
Roger J. Grabowski

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Cost of Capital Fourth Edition Workbook and Technical Supplement

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SHANNON P. PRATT
ROGER J. GRABOWSKI



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Contents

Preface	ix
About the Author	xi
Acknowledgments	xix
Notation System and Abbreviations Using in This Book	xxi

PART ONE

Technical Supplement—Supplements to Chapters of *Cost of Capital: Applications and Examples, 4th ed.*

CHAPTER 1	
Alternative Net Cash Flow Definitions—Supplement to Chapter 3	3
Introduction	3
Equity Cash Flow Method	3
Invested Capital Method	4
Capital Cash Flow Method	5
Adjusted Present Value Method	7
Residual Income Method	8
CHAPTER 2	
Examples of Computing OLS Beta, Sum Beta, and Full Information Beta Estimates—Supplement to Chapter 10	10
Introduction	10
Computing OLS and Sum Beta Estimates—An Example	11
Computing Full-Information Beta Estimate—An Example	15
CHAPTER 3	
Estimating Beta: Interpreting Regression Statistics—Supplement to Chapter 10	22
Introduction	22
Evaluating Beta Estimation Output	25
Evaluating Regression Output	26

CHAPTER 4		
	Example of Computing Downside Beta Estimates—Supplement to Chapter 12	31
	Introduction	31
	Computing Downside Beta Estimates	31
CHAPTER 5		
	Iterative Process Using CAPM to Calculate the Cost of Equity Component of the Weighted Average Cost of Capital When Capital Structure Is Constant—Supplement to Chapter 18	34
	Introduction	35
	Capital Asset Pricing Model and Beta	35
	Solution: The Iterative Process	36
	Iterative Process Using a Financial Spreadsheet Model	39
	Summary	48
	Additional Reading	48
CHAPTER 6		
	Iterative Process Using CAPM to Calculate the Cost of Equity Component of the Weighted Average Cost of Capital When Capital Structure Is Changing—Supplement to Chapter 18	49
	Introduction	49
	Assumptions Inherent in Weighted Average Cost of Capital	50
	Solution: Iterative Process with Changing Capital Structure	50
	Iterative Process Using Financial Spreadsheet Model	52
	Equity Value	60
	Summary	62
	Additional Reading	62
CHAPTER 7		
	Cost of Capital and the Valuation of Worthless Stock—Supplement to Chapter 16	63
	Introduction	64
	Liquidating Value	64
	Potential Value	66
	Example	67
	Possibility That Value of the Business Enterprise Exceeds the Face Value of Debt—Pricing Equity as a Call Option	67
	Potential Future Value: Probability That Business Enterprise Exceeds Face Value of Debt	73
	Additional Considerations	77
	Summary	79

PART TWO

Technical Supplement—Specific Applications of *Cost of Capital***CHAPTER 8****Cost of Capital of Private Investment Company Interests 83**

Introduction	83
The Private Investment Company	84
Relationships between Time to a Liquidity Event and Value	85
Lack of Control	89
Lack of Marketability or Illiquidity	93
Example Valuation of PIC Interest	99
Summary	105

CHAPTER 9**Cost of Capital of Real Property—Individual Assets 107**

Introduction	107
Typical Structure of a Real Estate Transaction	108
Real Property Competes with Other Asset Classes	109
Direct Capitalization Method	111
Discounted Cash Flow Method	125
Estimating the Property Discount Rate	126
Summary	130

Appendix 9A: Valuing Real Property 131**CHAPTER 10****Cost of Capital of Real Estate Entities 139**

Introduction	139
Definition of a Real Estate Entity	140
Measuring Net Cash Flow for Real Estate Entities	153
Valuation of Real Estate Entities	154
Summary	175
Additional Reading	176

Appendix 10A: Valuing Real Estate Entities 177**PART THREE**

Learning Objectives, Questions, and Problems 185**PART FOUR**

Answers and Solutions 227**Index 247**

Preface

Why did we add the *Workbook and Technical Supplement* to the *Cost of Capital: Applications and Examples*, 4th ed.? We wanted to further assist practitioners in better understanding how to estimate the cost of capital. This text adds more detailed examples to the *Cost of Capital: Applications and Examples*, 4th ed. It also contains questions and problems covering the material contained in the *Cost of Capital: Applications and Examples*, 4th ed. designed to help the reader better grasp that material.

This book uses the identical notation and abbreviations as those used in the text. Those can be referenced either in *Cost of Capital: Applications and Examples*, 4th ed. or on the companion web site (see later).

Part One contains technical supplements to several chapters. These will help the reader to be better able to implement the methods of analyses discussed in the main book.

Part Two contains an example of specific applications of applying the theory to the cost of capital for private investment companies, including one approach to incorporating the discount for lack of control and lack of marketability into the cost of capital. It also contains chapters extending the general concepts of developing cost of capital to real estate properties and real estate entities. These investments have their own set of terminologies unique to the industry, and we cover the terminology and methods of analysis commonly used in the industry in detail.

Part Three contains learning objectives, questions, and problems to help the practitioner better understand the content of the first 34 chapters of the *Cost of Capital: Applications and Examples*, 4th ed.

Part Four contains the answers to the questions and solutions to the problems presented in Part Three.

Finally, this book includes a companion web site, which can be found at www.wiley.com/go/coc4e. The web site includes the following:

1. The notation system and abbreviations used in this book.
2. The worksheets that are presented as exhibits in Chapters 5, Iterative Process Using CAPM to Calculate the Cost of Equity Component of the Weighted Average Cost of Capital When Capital Structure Is Constant; in Chapter 6, Iterative Process Using CAPM to Calculate the Cost of Equity Component of the Weighted Average Cost of Capital When Capital Structure Is Changing; and in Chapter 8, Cost of Capital of Private Investment Company Interests. These exhibits are provided for your reference so that you can track the methodologies discussed in the book and see how they are implemented through the Microsoft *Excel* worksheets. This will assist you in building models of your own using the worksheets as templates. Note that each file, however, typically contains additional information in different worksheets within that file.

3. Three appendices:
 - Appendix I: Sample Report Submitted to U.S. Tax Court (Supplement to Chapters 7 and 17) is an example of a report submitted to the U.S. Tax Court to help readers communicate the cost of capital methods in a straightforward way to the nontechnical reader.
 - Appendix II discusses the *ValuSource* Valuation Software, which is a helpful tool for the practitioner.
 - Appendix III contains a comprehensive review of the statistics discussed in the *Cost of Capital: Applications and Examples*, 4th ed. and used in developing the cost of capital. We included this appendix so practitioners who may need a refresher in basic statistics do not need to try to locate their statistics books from college. It covers many topics including probability theory (important for understanding and measuring risk), the statistics (e.g., mean, mode, standard deviation, beta, etc.) that are used to summarize return and risk data, and basic concepts of risk neutral payoffs and probabilities. It also includes formulas, terminology, and the statistical tools of the Microsoft *Excel* Analysis Toolpak.
4. PowerPoints that accompany the chapters of *Cost of Capital: Applications and Examples*, 4th ed. to assist those that want to use the book in seminars.

About the Authors

Dr. Shannon P. Pratt, CFA, FASA, ARM, MCBA, ABAR, CM&AA, is the chairman and CEO of Shannon Pratt Valuations, Inc., a nationally recognized business valuation firm headquartered in Portland, Oregon. He is also the founder and editor emeritus of Business Valuation Resources, LLC, and one of the founders of Willamette Management Associates, for which he was a managing director for almost 35 years.

He has performed valuation assignments for these purposes: transaction (acquisition, divestiture, reorganization, public offerings, public companies going private), taxation (federal income, gift, and estate and local ad valorem), financing (securitization, recapitalization, restructuring), litigation support and dispute resolution (including dissenting stockholder suits, damage cases, and corporate and marital dissolution cases), and management information and planning. He has also managed a variety of fairness opinion and solvency opinion engagements. He regularly reviews business valuation reports for attorneys in litigation matters.

Dr. Pratt has testified on hundreds of occasions in such litigated matters as dissenting stockholder suits, various types of damage cases (including breach of contract, antitrust, and breach of fiduciary duty), divorces, and estate and gift tax cases. Among the cases in which he has testified are *Estate of Mark S. Gallo v. Commissioner*, *Charles S. Foltz, et al. v. U.S. News & World Report et al.*, *Estate of Martha Watts v. Commissioner*, and *Okerlund v. United States*. He has also served as appointed arbitrator in numerous cases.

Previous Experience

Before founding Willamette Management Associates in 1969, Dr. Pratt was a professor of business administration at Portland State University. During this time, he directed a research center known as the Investment Analysis Center, which worked closely with the University of Chicago's Center for Research in Security Prices.

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Publications

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Mr. Grabowski has testified in court as an expert witness on the value of closely held businesses and business interests; matters of solvency, valuation, and amortization of intangible assets; and other valuation issues. His testimony in U.S. District Court was referenced in the U.S. Supreme Court opinion decided in his client's favor in the landmark *Newark Morning Ledger* income tax case. Among other cases in which he has testified are *Herbert V. Kohler Jr., et al. v. Comm.* (value of stock of The Kohler Company); *The Northern Trust Company, et al. v. Comm.* (the first U.S. Tax Court case that recognized the use of the discounted cash flow method for valuing a closely held business); *Oakland Raiders v. Oakland-Alameda County Coliseum Inc. et al.* (valuation of the Oakland Raiders); *In re: Louisiana Riverboat Gaming Partnership, et al. Debtors* (valuation of business enterprise owning two riverboat casinos and feasibility of plan of reorganization); *ABC-NACO, Inc. et al., Debtors, and The Official Committee of Unsecured Creditors of ABC-NACO v. Bank of America, N.A.* (valuation of collateral); *Wisniewski and Walsh v. Walsh* (oppressed shareholder action); and *TMR Energy Limited v. The State Property Fund of Ukraine* (arbitration on behalf of world's largest private company in Stockholm, Sweden, on cost of capital for oil refinery in Ukraine in a contract dispute).

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Since 1988, his technical contributions have been published by Wiley Law Publications, Aspen Legal Press, and in professional periodicals, including *Valuation Examiner*, *BewertungsPraktiker* Nr. (a German-language business valuation journal), *Practical Accountant*, *CPA Litigation Services Counselor*, *Gatekeeper Quarterly*, *Journal of Forensic Accounting*, and local legal society publications. Since 1997, Mr. Shirley has authored courses for NACVA's *Fundamentals, Techniques & Theory*; *Forensic Institute*, and *Consultant's Training Institute*. He also has developed several advanced courses for the NACVA in applied statistics and financial modeling.

A charter member of the LA Society of CPA's Litigation Services Committee, Mr. Shirley has remained active since the committee's formation. He has been an adjunct faculty member at the National Judicial College, University of Nevada, Reno, since 1998. Mr. Shirley also serves on the Advisory Panel for *Mdex Online*; *The Daubert Tracker*, an online *Daubert* research database; and the Ethics Oversight Board for the NACVA.

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The NACVA has recognized Mr. Shirley's contributions to professional education by awarding him the Circle of Light in 2002, Instructor of the Year in 2000–2001, and multiple recognitions as Outstanding Member and Award of Excellence.

Mr. Shirley contributed Chapter 3 of the *Cost of Capital: Applications and Examples*, 4th ed. *Workbook and Technical Supplement* and Appendix III of the *Workbook and Technical Supplement* which appears on the John Wiley & Sons web site.