FOURTH EDITION

CORPORATE FINANCE

Berk/DeMarzo

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Pearson

To Rebecca, Natasha, and Hannah, for the love and for being there —J. B.

To Kaui, Pono, Koa, and Kai, for all the love and laughter —P. D.

The Pearson Series in Finance

Berk/DeMarzo
Corporate Finance*
Corporate Finance: The Core*

Berk/DeMarzo/Harford
Fundamentals of Corporate Finance*

Brooks
Financial Management: Core Concepts*

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Financial Theory and Corporate Policy

Dorfman/Cather
*Introduction to Risk Management
and Insurance*

Eakins/McNally
Corporate Finance Online*

Eiteman/Stonehill/Moffett
Multinational Business Finance*

Fabozzi
Bond Markets: Analysis and Strategies

Foerster
*Financial Management: Concepts
and Applications**

Frasca
Personal Finance

Gitman/Zutter
Principles of Managerial Finance*
*Principles of Managerial Finance—Brief
Edition**

Haugen
*The Inefficient Stock Market: What Pays
Off and Why*
Modern Investment Theory

Holden
Excel Modeling in Corporate Finance
Excel Modeling in Investments

Hughes/MacDonald
International Banking: Text and Cases

Hull
Fundamentals of Futures and Options Markets
Options, Futures, and Other Derivatives

Keown
Personal Finance: Turning Money into Wealth*

Keown/Martin/Petty
*Foundations of Finance: The Logic
and Practice of Financial Management**

Madura
Personal Finance*

Marthinsen
*Risk Takers: Uses and Abuses of Financial
Derivatives*

McDonald
Derivatives Markets
Fundamentals of Derivatives Markets

Mishkin/Eakins
Financial Markets and Institutions

Moffett/Stonehill/Eiteman
Fundamentals of Multinational Finance

Pennacchi
Theory of Asset Pricing

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*Principles of Risk Management
and Insurance*

Smart/Gitman/Joehnk
Fundamentals of Investing*

Solnik/McLeavey
Global Investments

Titman/Keown/Martin
*Financial Management: Principles
and Applications**

Titman/Martin
*Valuation: The Art and Science
of Corporate Investment Decisions*

Weston/Mitchel/Mulherin
*Takeovers, Restructuring, and Corporate
Governance*

*denotes titles with MyFinanceLab   Log onto www.myfinancelab.com to learn more.

Brief Contents

Detailed Contents

PART 3   VALUING PROJECTS AND FIRMS

Bridging Theory and Practice

Focus on the Financial Crisis and Sovereign Debt Crisis

Global Financial Crisis boxes reflect the reality of the recent financial crisis and ongoing sovereign debt crisis, noting lessons learned. Twenty-two boxes across the book illustrate and analyze key details.

The Law of One Price as the Unifying Valuation Framework

The Law of One Price framework reflects the modern idea that the absence of arbitrage is the unifying concept of valuation. This critical insight is introduced in Chapter 3, revisited in each part opener, and integrated throughout the text—motivating all major concepts and connecting theory to practice.

Study Aids with a Practical Focus

To be successful, students need to master the core concepts and learn to identify and solve problems that today's practitioners face.

Common Mistakes boxes alert students to frequently made mistakes stemming from misunderstanding core concepts and calculations—in the classroom and in the field.

Worked Examples accompany every important concept using a step-by-step procedure that guides students through the solution process. Clear labels make them easy to find for help with homework and studying.

Applications that Reflect Real Practice

Corporate Finance features actual companies and leaders in the field.

Interviews with notable practitioners—six new for this edition—highlight leaders in the field and address the effects of the financial crisis.

General Interest boxes highlight timely material from financial publications that shed light on business problems and real-company practices.

Teaching Students to Think Finance

With a consistency in presentation and an innovative set of learning aids, *Corporate Finance* simultaneously meets the needs of both future financial managers and non-financial managers. This textbook truly shows every student how to "think finance."

Simplified Presentation of Mathematics

One of the hardest parts of learning finance is mastering the jargon, math, and non-standardized notation. *Corporate Finance* systematically uses:

Notation Boxes: Each chapter opens by defining the variables and acronyms used in the chapter as a "legend" for students' reference.

Timelines: Introduced in Chapter 4, timelines are emphasized as the important first step in solving *every* problem that involves cash flows.

Numbered and Labeled Equations: The first time a full equation is given in notation form it is numbered. Key equations are titled and revisited in the chapter summary.

Using Excel Boxes: Provide hands-on instruction of Excel techniques and include screenshots to serve as a guide for students.

Spreadsheet Tables: Select tables are available as Excel files, enabling students to change inputs and manipulate the underlying calculations.

TABLE 8.1 SPREADSHEET **HomeNet's Incremental Earnings Forecast**

	Year	0	1	2	3	4	5
Incremental Earnings Forecast ($000s)							
1	Sales	—	26,000	26,000	26,000	26,000	—
2	Cost of Goods Sold	—	(11,000)	(11,000)	(11,000)	(11,000)	—
3	**Gross Profit**	—	15,000	15,000	15,000	15,000	—
4	Selling, General, and Administrative	—	(2,800)	(2,800)	(2,800)	(2,800)	—
5	Research and Development	(15,000)	—	—	—	—	—
6	Depreciation	—	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)
7	**EBIT**	(15,000)	10,700	10,700	10,700	10,700	(1,500)
8	Income Tax at 40%	6,000	(4,280)	(4,280)	(4,280)	(4,280)	600
9	**Unlevered Net Income**	**(9,000)**	**6,420**	**6,420**	**6,420**	**6,420**	**(900)**

Practice Finance to Learn Finance

Working problems is the proven way to cement and demonstrate an understanding of finance.

Concept Check questions at the end of each section enable students to test their understanding and target areas in which they need further review.

End-of-chapter problems written personally by Jonathan Berk and Peter DeMarzo offer instructors the opportunity to assign first-rate materials to students for homework and practice with the confidence that the problems are consistent with chapter content. Both the problems and solutions, which also were written by the authors, have been class-tested and accuracy-checked to ensure quality.

Data Cases present in-depth scenarios in a business setting with questions designed to guide students' analysis. Many questions involve the use of Internet resources and Excel techniques.

MyFinanceLab

Because practice with homework problems is crucial to learning finance, *Corporate Finance* is available with MyFinanceLab, a fully integrated homework and tutorial system. MyFinanceLab revolutionizes homework and practice with material written and developed by Jonathan Berk and Peter DeMarzo.

Online Assessment Using End-of-Chapter Problems

The seamless integration among the textbook, assessment materials, and online resources sets a new standard in corporate finance education.

- **End-of-chapter problems**—every single one —appear online. The values in the problems are algorithmically generated, giving students many opportunities for practice and mastery. Problems can be assigned by professors and completed online by students.

- **Helpful tutorial tools**, along with the same pedagogical aids from the text, support students as they study. Links to the eText direct students right to the material they most need to review.

- **Interactive Figures**—Select in-text graphs and figures—covering topics such as bonds, stock valuation, NPV, and IRR—have been digitally enhanced to allow students to interact with variables to affect outcomes and bring concepts to life.

Additional Resources in MyFinanceLab
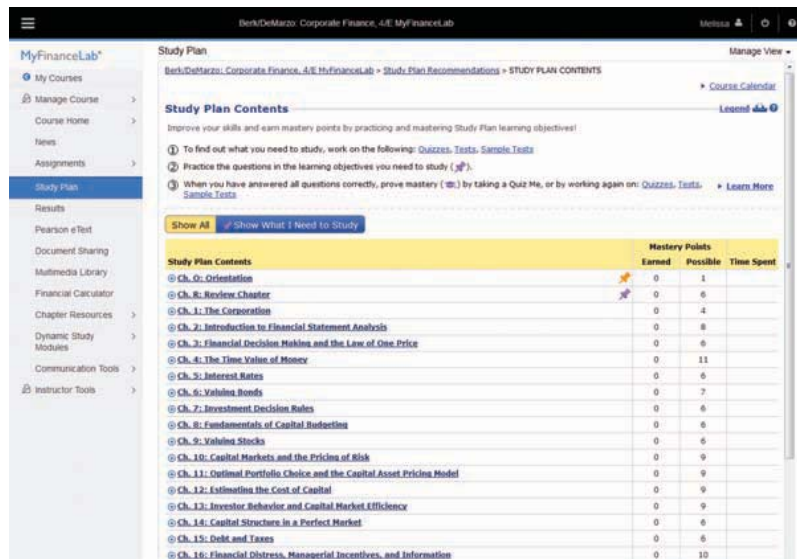
- **Video clips** profile high-profile firms such as Boeing, Cisco, Delta, and Intel through interviews and analysis. The videos focus on core topical areas, including capital budgeting, mergers and acquisitions, and risk and return.

- **Auto-Graded Excel Projects**—Using proven, field-tested technology, MyFinanceLab's new auto-graded Excel Projects allow instructors to seamlessly integrate Excel content into their course.

- **Finance in the News** provides weekly postings of a relevant and current article from a newspaper or journal article with discussion questions that are assignable in MyFinanceLab.

- Live **news and video feeds** from *The Financial Times* and ABC News provide real-time news updates.

- **Author Solution Videos** walk through the in-text examples using math, the financial calculator, and spreadsheets.

To learn more about MyFinanceLab, contact your local Pearson representative, www.pearsoneducation.com/replocator, or visit www.myfinancelab.com.

Hands-On Practice, Hands-Off Grading

Hands-On, Targeted Practice

Students can take pre-built Practice Tests for each chapter, and their test results will generate an individualized Study Plan. With the Study Plan, students learn to focus their energies on the topics they need to be successful in class, on exams, and, ultimately, in their careers.

Powerful Instructor Tools

MyFinanceLab provides flexible tools that enable instructors to easily customize the online course materials to suit their needs.

- **Easy-to-Use Homework Manager.** Instructors can easily create and assign tests, quizzes, or graded homework assignments. In addition to pre-built MyFinanceLab questions, the Test Bank is also available so that instructors have ample material with which to create assignments.

- **Flexible Gradebook.** MyFinanceLab saves time by automatically grading students' work and tracking results in an online Gradebook.
- **Downloadable Classroom Resources.** Instructors also have access to online versions of each instructor supplement, including the Instructor's Manual, Solutions Manual, PowerPoint Lecture Notes, and Test Bank.

To learn more about MyFinanceLab, contact your local Pearson representative, www.pearsoneducation.com/replocator, or visit www.myfinancelab.com.

About the Authors

Jonathan Berk is the A.P. Giannini Professor of Finance at the Graduate School of Business, Stanford University and is a Research Associate at the National Bureau of Economic Research. Before coming to Stanford, he was the Sylvan Coleman Professor of Finance at Haas School of Business at the University of California, Berkeley. Prior to earning his Ph.D., he worked as an Associate at Goldman Sachs (where his education in finance really began).

Professor Berk's research interests in finance include corporate valuation, capital structure, mutual funds, asset pricing, experimental economics, and labor economics. His work has won a number of research awards including the TIAA-CREF Paul A. Samuelson Award, the Smith Breeden Prize, Best Paper of the Year in *The Review of Financial Studies*, and the FAME Research Prize. His paper, "A Critique of Size-Related Anomalies," was selected as one of the two best papers ever published in *The Review of Financial Studies*. In recognition of his influence on the practice of finance he has received the Bernstein-Fabozzi/Jacobs Levy Award, the Graham and Dodd Award of Excellence, and the Roger F. Murray Prize. He served two terms as an Associate Editor of the *Journal of Finance*, and a term as a director of the American Finance Association, the Western Finance Association, and academic director of the Financial Management Association. He is a Fellow of the Financial Management Association and a member of the advisory board of the *Journal of Portfolio Management*.

Born in Johannesburg, South Africa, Professor Berk is married, with two daughters, and is an avid skier and biker.

Peter DeMarzo and Jonathan Berk

Peter DeMarzo is the Mizuho Financial Group Professor of Finance at the Graduate School of Business, Stanford University. He is the current Vice President of the American Finance Association and a Research Associate at the National Bureau of Economic Research. He teaches MBA and Ph.D. courses in Corporate Finance and Financial Modeling. In addition to his experience at the Stanford Graduate School of Business, Professor DeMarzo has taught at the Haas School of Business and the Kellogg Graduate School of Management, and he was a National Fellow at the Hoover Institution.

Professor DeMarzo received the Sloan Teaching Excellence Award at Stanford and the Earl F. Cheit Outstanding Teaching Award at U.C. Berkeley. Professor DeMarzo has served as an Associate Editor for *The Review of Financial Studies*, *Financial Management*, and the *B.E. Journals in Economic Analysis and Policy*, as well as a director of the American Finance Association. He has served as Vice President and President of the Western Finance Association. Professor DeMarzo's research is in the area of corporate finance, asset securitization, and contracting, as well as market structure and regulation. His recent work has examined issues of the optimal design of contracts and securities, leverage dynamics and the role of bank capital regulation, and the influence of information asymmetries on stock prices and corporate investment. He has received numerous awards including the Western Finance Association Corporate Finance Award and the Barclays Global Investors/Michael Brennan best-paper award from *The Review of Financial Studies*.

Professor DeMarzo was born in Whitestone, New York, and is married with three boys. He and his family enjoy hiking, biking, and skiing.

Preface

WE WERE MOTIVATED TO WRITE THIS TEXTBOOK BY A CENTRAL insight: The core concepts in finance are simple and intuitive. What makes the subject challenging is that it is often difficult for a novice to distinguish between these core ideas and other intuitively appealing approaches that, if used in financial decision making, will lead to incorrect decisions. De-emphasizing the core concepts that underlie finance strips students of the essential intellectual tools they need to differentiate between good and bad decision making.

We present corporate finance as an application of a set of simple, powerful ideas. At the heart is the principal of the absence of arbitrage opportunities, or Law of One Price—*in life, you don't get something for nothing*. This simple concept is a powerful and important tool in financial decision making. By relying on it, and the other core principles in this book, financial decision makers can avoid the bad decisions brought to light by the recent financial crisis. We use the Law of One Price as a compass; it keeps financial decision makers on the right track and is the backbone of the entire book.

New to This Edition

We have updated all text discussions and figures, tables, data cases, and facts to accurately reflect developments in the field in the last four years. Specific highlights include the following:

- Increased coverage of early stage financing in Chapter 23 (Raising Equity Capital), including a detailed explanation of angel financing, venture capital deal terms, and an expanded explanation of typical returns investors might earn.
- Addressed the implications of negative interest rates throughout the book.
- Expanded coverage of the European debt crisis in Chapter 6 (Valuing Bonds) including a case study on the Greek default.
- Added material throughout Part 5 (Capital Structure) that relates the capital structure to the current debate on bank leverage.
- Added coverage in Chapter 1 (The Corporation) describing the ongoing changes to how stocks are traded worldwide.
- Expanded the explanation of key financial ratios in Chapter 2 (Introduction to Financial Statement Analysis) and index arbitrage in Chapter 3 (Financial Decision Making and the Law of One Price).
- Redesigned sections of Chapter 22 (Real Options) with new examples to make the exposition clearer.
- Updated the coverage in Chapter 13 (Investor Behavior and Capital Market Efficiency) to reflect recent developments in asset pricing.
- Six new practitioner interviews incorporate timely perspectives from leaders in the field related to the recent financial crisis and ongoing European sovereign debt crisis.
- Added Nobel Prize boxes to reflect the recent Nobel Prizes awarded for material covered in the book.
- Added a new Case Study, two new Data Cases, new problems and refined many others, once again personally writing and solving each one. In addition, every single problem is available in MyFinanceLab, the groundbreaking homework and tutorial system that accompanies the book.

The Law of One Price as a Unifying Principle of Valuation

This book presents corporate finance as an application of a small set of simple core ideas. Modern finance theory and practice is grounded in the idea of the absence of arbitrage—or the Law of One Price—as the unifying concept in valuation. We introduce the Law of One Price concept as the basis for NPV and the time value of money in Chapter 3, *Financial Decision Making and the Law of One Price*. In the opening of each part and as pertinent throughout the remaining chapters, we relate major concepts to the Law of One Price, creating a framework to ground the student reader and connect theory to practice.

Table of Contents Overview

Corporate Finance offers coverage of the major topical areas for introductory-level MBA students as well as the depth required in a reference textbook for upper-division courses. Most professors customize their classes by selecting a subset of chapters reflecting the subject matter they consider most important. We designed this book from the outset with this need for flexibility in mind. Parts 2 through 6 are the core chapters in the book. We envision that most MBA programs will cover this material—yet even within these core chapters instructors can pick and choose.

Single quarter course: Cover Chapters 3–15; if time allows, or students are previously familiar with the time value of money, add on Chapters 16–19.

Semester-long course: Incorporate options (Chapters 20–22) and Part 10, *Special Topics*, chapters as desired.

Single mini-semester: Assign Chapters 3–10, 14, and 15 if time allows.

Chapter	Highlights and Changes
1 The Corporation	Introduces the corporation and its governance; updated the Dodd-Frank Act information; new interview with M. Hatheway, NASDAQ
2 Introduction to Financial Statement Analysis	Introduces key financial statements; coverage of financial ratios is centralized to prepare students to analyze financial statements holistically; new interview with Ruth Porat, Google
3 Financial Decision Making and the Law of One Price	Introduces the Law of One Price and net present value as the basis of the book's unifying framework; new box on dynamics of stock index arbitrage and high-frequency trading
4 The Time Value of Money	Introduces the mechanics of discounting with applications to personal finance; Using Excel boxes familiarizes students with spreadsheet functionality; new box on an annuity due
5 Interest Rates	Discusses key determinants of interest rates and their relation to the cost of capital; new Data Case on Florida's pension plan liability
6 Valuing Bonds	Analyzes bond prices and yields, as well as the risk of fixed-income securities as illustrated by the sovereign debt crisis; expanded Global Financial Crisis box on negative bond yields; new Case Study on Greek default
7 Investment Decision Rules	Introduces the NPV rule as the "golden rule" against which we evaluate other investment decision rules; new Data Case using NPV rule to choose between mortgage loans; introduces the use of Data Tables for sensitivity analysis
8 Fundamentals of Capital Budgeting	Provides a clear focus on the distinction between earnings and free cash flow, and shows how to build a financial model to assess the NPV of an investment decision; new Common Mistake box on the sunk cost fallacy

Chapter	Highlights and Changes
9 Valuing Stocks	Provides a unifying treatment of projects within the firm and the valuation of the firm as a whole
10 Capital Markets and the Pricing of Risk	Establishes the intuition for understanding risk and return, explains the distinction between diversifiable and systematic risk, and introduces beta and the CAPM; extensive data updates throughout to reflect current market conditions
11 Optimal Portfolio Choice and the Capital Asset Pricing Model	Presents the CAPM and develops the details of mean-variance portfolio optimization; updated examples and Data Case
12 Estimating the Cost of Capital	Demonstrates the practical details of estimating the cost of capital for equity, debt, or a project, and introduces asset betas, and the unlevered and weighted-average cost of capital; new Common Mistake box on using a single cost of capital in multi-divisional firms; new Using Excel box on estimating beta
13 Investor Behavior and Capital Market Efficiency	Examines the role of behavioral finance and ties investor behavior to the topic of market efficiency and alternative models of risk and return; expanded discussion of fund manager performance; updated interview with Jonathan Clements, former columnist at *WSJ*
14 Capital Structure in a Perfect Market	Presents Modigliani and Miller's results and introduces the market value balance sheet, discussion of important leverage fallacies with application to bank capital regulation
15 Debt and Taxes	Analyzes the tax benefits of leverage, including the debt tax shield and the after-tax WACC; new box on the repatriation tax controversy
16 Financial Distress, Managerial Incentives, and Information	Examines the role of asymmetric information and introduces the debt overhang and leverage ratchet effect
17 Payout Policy	Considers alternative payout policies including dividends and share repurchases; analyzes the role of market imperfections in determining the firm's payout policy; updated discussion of corporate cash retention
18 Capital Budgeting and Valuation with Leverage	Develops in depth the three main methods for capital budgeting with leverage and market imperfections: the weighted average cost of capital (WACC) method, the adjusted present value (APV) method, and the flow-to-equity (FTE) method; new interview with Zane Rowe, VMware; new appendix explaining the relation between DCF and residual income valuation methods
19 Valuation and Financial Modeling: A Case Study	Builds a financial model for a leveraged acquisition; new Using Excel box "Summarizing Model Outputs"
20 Financial Options	Introduces the concept of financial options, how they are used and exercised; demonstrates how corporate securities may be interpreted using options
21 Option Valuation	Develops the binomial, Black-Scholes, and risk-neutral pricing methods for option pricing
22 Real Options	Analyzes real options using decision tree and Black-Scholes methods, and considers the optimal staging of investment; expanded discussion of decision tree methodology with new examples
23 Raising Equity Capital	Overview of the stages of equity financing, from angel financing and venture capital to IPO to seasoned equity offerings; new expanded coverage of venture capital financing including common deal terms and protections as well as an illustration of typical funding patterns and success rates; new Common Mistake box on misinterpreting start-up valuations; new interview with Kevin Laws, AngelList

Chapter	Highlights and Changes
24 Debt Financing	Overview of debt financing, including a discussion of asset-backed securities and their role in the financial crisis; new box on Detroit's municipal bond default
25 Leasing	Introduces leasing as an alternative form of levered financing; update on new FASB rules for lease accounting; new interview with Mark S. Long, XOJet
26 Working Capital Management	Introduces the Cash Conversion Cycle and methods for managing working capital
27 Short-Term Financial Planning	Develops methods for forecasting and managing short-term cash needs; new box on the Ex-Im Bank controversy
28 Mergers and Acquisitions	Considers motives and methods for mergers and acquisitions, including leveraged buyouts; expanded discussion of valuation and premiums paid
29 Corporate Governance	Evaluates direct monitoring, compensation policies, and regulation as methods to manage agency conflicts within the firm; addresses impact of Dodd-Frank Act; new discussion of shareholder activism and its recent impact on corporate governance
30 Risk Management	Analyzes the methods and motives for the use of insurance, commodity futures, currency forwards and options, and interest rate swaps to hedge risk
31 International Corporate Finance	Analyzes the valuation of projects with foreign currency cash flows with integrated or segregated capital markets

A Complete Instructor and Student Support Package

MyFinanceLab

A critical component of the text, MyFinanceLab will give all students the practice and tutorial help they need to succeed. For more details, see pages xxi–xxii.

Instructor's Resource Center

This password-protected site, accessible at www.pearsonhighered.com/irc, hosts all of the instructor resources that follow. Instructors should click on the "IRC Help Center" link for easy-to-follow instructions on getting access or may contact their sales representative for further information.

Solutions Manual

- Prepared by Jonathan Berk and Peter DeMarzo.
- Provides detailed, accuracy-verified, class-tested solutions to every chapter Problem.
- See the Instructor's Resource Center for spreadsheet solutions to select chapter Problems and Data Cases.

Instructor's Manual

- Written by Janet Payne of Texas State University.
- Corresponding to each chapter, provides: chapter overview and outline correlated to the PowerPoint Lecture Notes; learning objectives; guide to fresh worked examples in the PowerPoint Lecture Notes; and listing of chapter problems with accompanying Excel spreadsheets.

Test Item File

- Revised by Janet Payne and William Chittenden of Texas State University.
- Provides a wide selection of multiple-choice, short answer, and essay questions qualified by difficulty level and skill type and correlated to chapter topics. Numerical-based Problems include step-by-step solutions.
- Available as Computerized Test Bank in TestGen.

PowerPoint Lecture Presentation

- Authored by William Chittenden of Texas State University.
- Offers outlines of each chapter with graphs, tables, key terms, and concepts from each chapter.
- Worked examples provide detailed, step-by-step solutions in the same format as the boxes from the text and correlated to parallel specific textbook examples.

Videos

- Profile well-known firms such as Boeing and Intel through interview and analysis.
- Focus on core topical areas such as capital budgeting and risk and return.
- Author Solution Videos that walk through the in-text examples using math, the financial calculator, and spreadsheets.
- Available in MyFinanceLab.

Acknowledgments

Looking back, it is hard to believe that this book is in its fourth edition. We are heartened by its success and impact on the profession through shaping future practitioners. As any textbook writer will tell you, achieving this level of success requires a substantial amount of help. First and foremost we thank Donna Battista, whose leadership, talent, and market savvy are imprinted on all aspects of the project and are central to its more than 10 years of success; Denise Clinton, a friend and a leader in fact not just in name, whose experience and knowledge were indispensable in the earliest stages; Rebecca Ferris-Caruso, for her unparalleled expertise in managing the complex writing, reviewing, and editing processes and patience in keeping us on track—it is impossible to imagine writing the first edition without her; Jami Minard, for spearheading marketing efforts; Kate Fernandes, for her energy and fresh perspective as our new editor; Miguel Leonarte, for his central role on MyFinanceLab; Gillian Hall for getting the book from draft pages into print; and Paul Corey for his insightful leadership and unwavering support of this fourth edition. We were blessed to be approached by the best publisher in the business and we are both truly thankful for the indispensable help provided by these and other professionals, including Kathryn Brightney, Dottie Dennis, Meredith Gertz, Nancy Freihofer, Melissa Honig, and Carol Melville.

Updating a textbook like ours requires a lot of painstaking work, and there are many who have provided insights and input along the way. We would especially like to call out Jared Stanfield for his important contributions and suggestions throughout. We're also appreciative of Marlene Bellamy's work conducting the lively interviews that provide a critically important perspective, and to the interviewees who graciously provided their time and insights.

Of course, this fourth edition text is built upon the shoulders of the first three, and we have many to thank for helping us make those early versions a reality. We remain forever grateful for Jennifer Koski's critical insights, belief in this project, and tireless effort, all of which were

critical to the first edition. Many of the later, non-core chapters required specific detailed knowledge. Nigel Barradale, Reid Click, Jarrad Harford, and Marianne Plunkert ensured that this knowledge was effectively communicated. Joseph Vu and Vance P. Lesseig contributed their talents to the Concept Check questions and Data Cases, respectively.

Creating a truly error-free text is a challenge we could not have lived up to without our team of expert error checkers; we owe particular thanks to Sukarnen Suwanto, Siddharth Bellur, Robert James, Anand Goel, Ian Drummond Gow, Janet Payne, and Jared Stanfield. Thomas Gilbert and Miguel Palacios tirelessly worked examples and problems in the first edition, while providing numerous insights along the way.

A corporate finance textbook is the product of the talents and hard work of many talented colleagues. We are especially gratified with the work of those who updated the impressive array of supplements to accompany the book: Janet Payne and William Chittenden, for the Instructor's Manual, Test Item File, and PowerPoint; and Sukarnen Suwanto, for his accuracy review of the Solutions Manual.

As a colleague of both of us, Mark Rubinstein inspired us with his passion to get the history of finance right by correctly attributing the important ideas to the people who first enunciated them. We have used his book, *A History of the Theory of Investments: My Annotated Bibliography*, extensively in this text and we, as well as the profession as a whole, owe him a debt of gratitude for taking the time to write it all down.

We could not have written this text if we were not once ourselves students of finance. As any student knows, the key to success is having a great teacher. In our case we are lucky to have been taught and advised by the people who helped create modern finance: Ken Arrow, Darrell Duffie, Mordecai Kurz, Stephen Ross, and Richard Roll. It was from them that we learned the importance of the core principles of finance, including the Law of One Price, on which this book is based. The learning process does not end at graduation and like most people we have had especially influential colleagues and mentors from which we learned a great deal during our careers and we would like to recognize them explicitly here: Mike Fishman, Richard Green, Vasant Naik, Art Raviv, Mark Rubinstein, Joe Williams, and Jeff Zwiebel. The passing of Rick last year was a loss we will feel forever. We continue to learn from all of our colleagues and we are grateful to all of them. Finally, we would like to thank those with whom we have taught finance classes over the years: Anat Admati, Ming Huang, Dirk Jenter, Robert Korajczyk, Paul Pfleiderer, Sergio Rebelo, Richard Stanton, and Raman Uppal. Their ideas and teaching strategies have without a doubt influenced our own sense of pedagogy and found their way into this text.

Finally, and most importantly, we owe our biggest debt of gratitude to our spouses, Rebecca Schwartz and Kaui Chun DeMarzo. Little did we (or they) know how much this project would impact our lives, and without their continued love and support—and especially their patience and understanding—this text could not have been completed. We owe a special thanks to Kaui DeMarzo, for her inspiration and support at the start of this project, and for her willingness to be our in-house editor, contributor, advisor, and overall sounding-board throughout each stage of its development.

Jonathan Berk
Peter DeMarzo

Contributors

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