Fundamentals of Corporate Finance



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Fundamentals of Corporate Finance Eighth Canadian Edition

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ISBN-13: 978-0-07-105160-6 ISBN-10: 0-07-105160-0

$1\ 2\ 3\ 4\ 5\ 6\ 7\ 8\ 9\ 0\ QGV\ 1\ 9\ 8\ 7\ 6\ 5\ 4\ 3$

Printed and bound in the United States of America.

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Library and Archives Canada Cataloguing in Publication

Fundamentals of corporate finance / Stephen A. Ross ... [et al.].—8th Canadian ed. Includes bibliographical references and indexes.

ISBN 978-0-07-105160-6

1. Corporations—Finance—Textbooks. I. Ross, Stephen A

HG4026.F86 2013 658.15 C2012-906997-3

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Systematic and Unsystematic Risk

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Fundamentals of Corporate Finance continues on its tradition of excellence that has earned it its status as market leader. The rapid and extensive changes in financial markets and instruments has placed new burdens on the teaching of Corporate Finance in Canada. As a result, every chapter has been updated to provide the most current examples that reflect Corporate Finance in today's world. This best-selling text is written with one strongly held principle—that Corporate Finance should be developed and taught in terms of a few integrated powerful ideas: Emphasis on Intuition, Unified Valuation Approach, and Managerial Focus.

An Emphasis on Intuition We are always careful to separate and explain the principles at work on an intuitive level before launching into any specifics. The underlying ideas are discussed first in very general terms and then by way of examples that illustrate in more concrete terms how a financial manager might proceed in a given situation.

A Unified Valuation Approach We treat net present value (NPV) as the basic concept underlying corporate finance. Many texts stop well short of consistently integrating this important principle. The most basic notion—that NPV represents the excess of market value over cost tends to get lost in an overly mechanical approach to NPV that emphasizes computation at the expense of understanding. Every subject covered in *Fundamentals of Corporate Finance* is firmly rooted in valuation, and care is taken throughout the text to explain how particular decisions have valuation effects.

A Managerial Focus Students will not lose sight of the fact that financial management concerns *management*. Throughout the text, the role of the financial manager as decision maker is emphasized, and the need for managerial input and judgement is stressed. "Black box" approaches to finance are consciously avoided.

These three themes work together to provide a sound foundation, and a practical and workable understanding of how to evaluate and make financial decisions.

New to This Edition In addition to retaining the coverage that has characterized *Fundamentals of Corporate Finance* from the beginning, the Eighth Canadian Edition features enhanced Canadian content on current issues such as:

- Perspective on the financial crisis of 2007–2009 and its aftermath, in particular, the European government debt credit crisis (Chapters 1, 12, and 24, among others).
- Updated and expanded coverage of corporate governance, social responsibility, ethical investing, and shareholder activism (Chapters 1, 8, and 23).
- Addition of a new chapter on Behavioural Finance (Chapter 26).
- Refocusing of the derivatives coverage on Enterprise Risk Management (Chapter 24).

This book was designed and developed explicitly for a first course in business or corporate finance, for both finance majors and non-majors alike. In terms of background or prerequisites, the book is nearly self-contained, assuming some familiarity with basic algebra and accounting concepts, while still reviewing important accounting principles very early on. The organization of this text has been developed to give instructors the flexibility they need.

Just to give an idea of the breadth of coverage in the Eighth Canadian Edition, the following grid presents, for each chapter, some of the most significant features, as well as a few selected chapter highlights. Of course, in every chapter, opening vignettes, boxed features, in-chapter illustrated examples using real companies, and end-of-chapter materials have been thoroughly updated as well.

Chapters	Selected Topics of Interest	Benefits to You			
PART ONE OVERVIEW OF CORPORATE FINANCE					
Chapter 1 Introduction to Corporate Finance	• <i>New material:</i> Perspective on the financial crisis of 2007–2009 and its aftermath, in particular, the European government debt credit crisis	• Links to headlines on financial crisis.			
	Goal of the firm and agency problems	• Stresses value creation as the most fundamental aspect of management and describes agency issues that can arise.			
	• Ethics, financial management, and executive compensation	• Brings in real-world issues concerning conflicts of interest and current controversies surrounding ethical conduct and management pay.			
Chapter 2	• New material: Financial statements conforming to IFRS	• Links to current practice.			
Financial Statements, Cash Flow, and Taxes	Cash flow vs. earnings	• Defines cash flow and the differences between cash flow and earnings.			
	Market values vs. book values	• Emphasizes the relevance of market values over book values.			
PART TWO FINA	NCIAL STATEMENTS AND LONG-TERM	I FINANCIAL PLANNING			
Chapter 3 Working with Financial Statements	• Using financial statement information	• Discusses the advantages and disadvantages of using financial statements.			
Chapter 4 Long-Term Financial Planning and Corporate	• Explanation of alternative formulas for sustainable and internal growth rates	• Explanation of growth rate formulas clears up a common misunderstanding about these formulas and the circumstances under which alternative formulas are correct.			
Growth	 Thorough coverage of sustainable growth as a planning tool 	 Provides a vehicle for examining the interrelationships among operations, financing, and growth. 			
PART THREE VALUATION OF FUTURE CASH FLOWS					
Chapter 5 Introduction to Valuation: The Time Value of Money	• First of two chapters on time value of money	• Relatively short chapter introduces the basic ideas on time value of money to get students started on this traditionally difficult topic.			
Chapter 6 Discounted Cash Flow Valuation	Second of two chapters on time value of money	 Covers more advanced time value topics with numerous examples, calculator tips, and Excel spreadsheet exhibits. Contains many real-world examples. 			
Chapter 7 Interest Rates and Bond	• <i>New material:</i> Discussion of bond fund strategies at time of European government debt crisis	• Links chapter material to current events.			
Valuation	• "Clean" vs. "dirty" bond prices and accrued interest	• Clears up the pricing of bonds between coupon payment dates and also bond market quoting conventions.			
	• Bond ratings	• Up-to-date discussion of bond rating agencies and ratings given to debt. Includes the latest descriptions of ratings used by DBRS.			
Chapter 8	• New material: Stock valuation using multiples	• Broadens coverage of valuation techniques.			
Stock Valuation	• <i>New material:</i> Examples of shareholder activism at Canadian Pacific and Magna International	• Expands governance coverage and links chapter material to current events.			

Chapters	Selected Topics of Interest	Benefits to You				
PART FOUR CAP	PART FOUR CAPITAL BUDGETING					
Chapter 9 Net Present Value and	• <i>New material:</i> Enhanced discussion of multiple IRRs and modified IRR	Clarifies properties of IRR.				
Other Investment Criteria	• New material: Practice of capital budgeting in Canada	• Current Canadian material demonstrates relevance of techniques presented.				
	• First of three chapters on capital budgeting	• Relatively short chapter introduces key ideas on an intuitive level to help students with this traditionally difficult topic.				
	 NPV, IRR, payback, discounted payback, and accounting rate of return 	• Consistent, balanced examination of advantages and disadvantages of various criteria.				
Chapter 10 Making Capital Investment	• Project cash flow	• Thorough coverage of project cash flows and the relevant numbers for a project analysis.				
Decisions	Alternative cash flow definitions	• Emphasizes the equivalence of various formulas, thereby removing common misunderstandings.				
	Special cases of DCF analysis	• Considers important applications of chapter tools.				
Chapter 11 Project Analysis and Evaluation	• <i>New material:</i> Detailed examples added of scenario analysis in gold mining and managerial options in zoo management	• Brings technique to life in real-world example.				
	Sources of value	• Stresses the need to understand the economic basis for value creation in a project.				
	Scenario and sensitivity "what-if" analyses	• Illustrates how to apply and interpret these tools in a project analysis.				
	Break-even analysis	• Covers cash, accounting, and financial break-even levels.				
PART FIVE RISK	AND RETURN					
Chapter 12 Lessons from Capital Market History	• <i>New material:</i> Capital market history updated through 2011, new section on market volatility in 2008, In Their Own Words box on the crash of 2008 and the efficient markets hypothesis	• Extensively covers historical returns, volatilities, and risk premiums.				
	• Geometric vs. arithmetic returns	• Discusses calculation and interpretation of geometric returns. Clarifies common misconceptions regarding appropriate use of arithmetic vs. geometric average returns.				
	Market efficiency	• Discusses efficient markets hypothesis along with common misconceptions.				
Chapter 13	• New material: Correlations in the financial crisis	• Explains instability in correlations with a current example.				
Return, Risk, and the Security	• Diversification, systematic and unsystematic risk	• Illustrates basics of risk and return in straightforward fashion.				
Market Line	• Beta and the security market line	• Develops the security market line with an intuitive approach that bypasses much of the usual portfolio theory and statistics.				
PART SIX COST	OF CAPITAL AND LONG-TERM FINANC	IAL POLICY				
Chapter 14 Cost of Capital	Cost of capital estimation	• Contains a complete step-by-step illustration of cost of capital for publicly traded Loblaw Companies.				
Chapter 15 Raising Capital	Dutch auction IPOs	• Explains uniform price auctions using Google IPO as an example.				
	• IPO "quiet periods"	• Explains the OSC's and SEC's quiet period rules.				
	Lockup agreements	• Briefly discusses the importance of lockup agreements.				
	• IPOs in practice	• Takes in-depth look at IPOs of Facebook and Athabasca Oil Sands.				
Chapter 16	• New material: Pecking order theory	• Expands coverage of capital structure.				
Financial Leverage and Capital Structure Policy	Basics of financial leverage	• Illustrates the effect of leverage on risk and return.				
Cupitur Structure Folicy	Optimal capital structure	• Describes the basic trade-offs leading to an optimal capital structure.				
	Financial distress and bankruptcy	Briefly surveys the bankruptcy process.				
Chapter 17 Dividends and Dividend Policy	• New material: Recent Canadian survey evidence on dividend policy	• Survey results show the most important (and least important) factors that financial managers consider when setting dividend policy.				
	Dividends and dividend policy	• Describes dividend payments and the factors favouring higher and lower payout policies.				

Chapters	Selected Topics of Interest	Benefits to You		
PART SEVEN SHORT-TERM FINANCIAL PLANNING AND MANAGEMENT				
Chapter 18	Operating and cash cycles	• Stresses the importance of cash flow timing.		
Short-Term Finance and Planning	Short-term financial planning	 Illustrates creation of cash budgets and potential need for financing. 		
Chapter 19	• Float management	Covers float management thoroughly.		
Cash and Liquidity Management	Cash collection and disbursement	• Examines systems that firms use to handle cash inflows and outflows.		
Chapter 20	Credit management	• Analysis of credit policy and implementation.		
Credit and Inventory Management	Inventory management	• Briefly surveys important inventory concepts.		
PART EIGHT TO	PICS IN CORPORATE FINANCE			
Chapter 21 International Corporate	• Exchange rate, political, and governance risks	• Discusses hedging and issues surrounding sovereign and governance risks.		
Finance	• Foreign exchange	• Covers essentials of exchange rates and their determination.		
	International capital budgeting	• Shows how to adapt basic DCF approach to handle exchange rates.		
Chapter 22 Leasing	Synthetic leases	• Discusses controversial practice of financing off the statement of financial position (also referred to as off-balance sheet financing).		
	Leases and lease valuation	• Discusses essentials of leasing.		
Chapter 23 Mergers and Acquisitions	• <i>New material:</i> Expanded discussion of dual class stock, investor activism, and ownership and control	• Presents topical issues with Canadian examples.		
	Alternatives to mergers and acquisitions	• Covers strategic alliances and joint ventures and explains why they are important alternatives.		
	Divestitures and restructurings	• Examines important actions such as equity carve-outs, spins-offs, and split-ups.		
	Mergers and acquisitions	• Develops essentials of M&A analysis, including financial, tax, and accounting issues.		
PART NINE DER	VATIVE SECURITIES AND CORPORATE	FINANCE		
Chapter 24 Enterprise Risk	• <i>New material:</i> Enterprise risk management framework and insurance	• Illustrates need to manage risk and some of the most important types of risk.		
Management	• New material: Recent survey results on derivatives use	• Relates material to practice by financial executives.		
	Hedging with forwards, futures, swaps, and options	• Shows how many risks can be managed with financial derivatives.		
Chapter 25 Options and Corporate	Put-call parity and Black–Scholes	• Develops modern option valuation and factors influencing option values.		
Securities	Options and corporate finance	 Applies option valuation to a variety of corporate issues, including mergers and capital budgeting. 		
Chapter 26 (New	• Introduction to Behavioural Finance	• Introduces biases, framing effects, and heuristics.		
Chapter) Behavioural Finance:	Behavioural Finance and market efficiency	• Explains limits to arbitrage and discusses bubbles and crashes, including the Crash of 2008.		
Implications for Financial Management	• Market efficiency and the performance of professional money managers	• Expands on efficient markets discussion in Chapter 12 and relates it to Behavioural Finance.		

In addition to illustrating pertinent concepts and presenting up-to-date coverage, the authors strive to present the material in a way that makes it logical and easy to understand. To meet the varied needs of the intended audience, our text is rich in valuable learning tools and support.

Each feature can be categorized by the benefit to the student:

- Real Financial Decisions
- Application Tools
- Study Aids

Real Financial Decisions

We have included key features that help students connect chapter concepts to how decision makers use this material in the real world.

In Their Own Words Boxes A unique series of brief essays are written by distinguished scholars and by Canadian practitioners on key topics in the text. To name just a few, these include essays by Jeremy Siegel on efficient market theory and the financial crisis, Eric Lie on option backdating, and Heather Pelant on investment risk.

IN THEIR OWN WORDS...

Jeremy Siegel on Efficient Market Theory and the Crisis

Financial journalist and best-selling author Roger Lowenstein didn't mince words in a piece for the *Washington Post* this summer: "The upside of the current Great Recession is that it could drive a stake through the heart of the academic nostrum known as the efficient-market hypothesis." In a similar vein, the highly respected money manager and financial analyst Jeremy Grantham wrote in his quarterly letter last January: "The incredibly inaccurate efficient market theory [caused] a

thought that underlying collateral—the home—could always cover the principal in the event the homeowner defaulted. These models led credit agencies to rate these subprime mortgages as "investment grade."

But this assessment was faulty. From 2000 through 2006, national home prices rose by 88.7%, far more than the 17.5% gain in the consumer price index or the paltry 1% rise in median household income. Never before have home prices jumped that far ahead of prices and incomes.

This should have sent up red flags and cast doubts on using

Enhanced Real-World Examples There are many current examples integrated throughout the text, tying chapter concepts to real life through illustration and reinforcing the relevance of the material. For added reinforcement, some examples tie into the chapter-opening vignettes.

Web Links We have added and updated website references, a key research tool directing students to websites that tie into the chapter material.

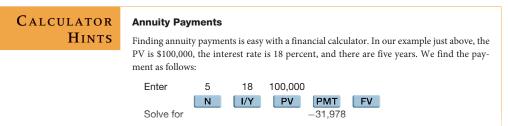
Integrative Mini Cases These longer problems seek to integrate a number of topics from within the chapter. The Mini Cases allow students to test and challenge their abilities to solve real-life situations for each of the key sections of the text material.

Internet Application Questions Questions relevant to the topic discussed in each chapter, are presented for the students to explore using the Internet. Students will find direct links to the websites included in these questions on the Ross Connect site and linked out directly from the eBook.

Application Tools

Realizing that there is more than one way to solve problems in Corporate Finance, we include sections that will not only encourage students to learn different problem-solving methods, but will also help them learn or brush up on their financial calculator and Excel[®] spreadsheet skills.

Calculator Hints This feature introduces students to problem solving with the assistance of a financial calculator. Sample keystrokes are provided for illustrative purposes, although individual calculators will vary.



Here we get a negative sign on the payment because the payment is an outflow for us.

Spreadsheet Strategies This feature either introduces students to Excel[®] or helps them brush up on their Excel[®] spreadsheet skills, particularly as they relate to Corporate Finance. This feature appears in self-contained sections and shows students how to set up spreadsheets to analyze common financial problems—a vital part of every business student's education.

SPREADSHEET STRATEGIES

6.0 B.0 - 1

How to Calculate Bond Prices and Yields Using a Spreadsheet

Most spreadsheets have fairly elaborate routines available for calculating bond values and yields; many of these routines involve details that we have not discussed. However, setting up a simple spreadsheet to calculate prices or yields is straightforward, as our next two spreadsheets show:

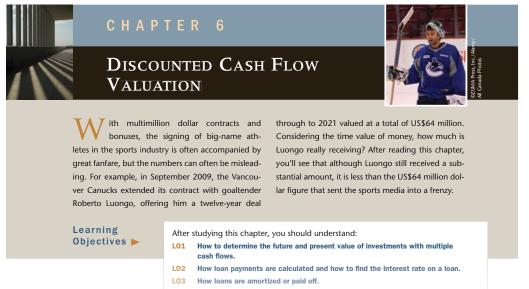
	A	В	С	D	E	F	G	Н
1								
2	Using a spreadsheet to calculate bond values							
3	-							
	Suppose we have a bond with 22 years to maturity, a coupon rate of 8 percent, and a yield to							

Excel® Spreadsheet Templates Selected questions within the end-of-chapter material, identified by the following icon: A, can be solved using the Excel® Spreadsheet Templates available on this text's Connect. These Excel® templates are a valuable extension of the Spreadsheet Strategies feature.

Study Aids

We want students to get the most from this resource and their course, and we realize that students have different learning styles and study needs. We therefore present a number of study features to appeal to a wide range of students.

Chapter Learning Objectives This feature maps out the topics and learning goals in each chapter. Each end-of-chapter problem is linked to a learning objective to help students organize their study time appropriately.



LO4 How interest rates are quoted (and misquoted).

Concept Building Chapter sections are intentionally kept short to promote a step-by-step, building block approach to learning. Each section is then followed by a series of short concept questions that highlight the key ideas just presented. Students use these questions to make sure they can identify and understand the most important concepts as they read.

Numbered Examples Separate numbered and titled examples are extensively integrated into the chapters. These examples provide detailed applications and illustrations of the text material in a step-by-step format. Each example is completely self-contained so students don't have to search for additional information. Based on our classroom testing, these examples are among the most useful learning aids because they provide both detail and explanation.

Key Terms Within each chapter, key terms are highlighted in **boldface** type the first time they appear. Key terms are defined in the text, and also in a running glossary in the margins of the text for quick reminders. For reference, there is a list of key terms at the end of each chapter and a full glossary with page references for each term at the back of the textbook.

Summary Tables These tables succinctly restate key principles, results, and equations. They appear whenever it is useful to emphasize and summarize a group of related concepts.

Key Equations These are called out in the text and identified by equation number. An Equation Index is available at the end of the book and a Formula Sheet can be found on the text's Connect site.

Chapter Summary and Conclusion These paragraphs review the chapter's key points and provide closure to the chapter.

Chapter Review Problems and Self-Test Appearing after the Summary and Conclusions and Key Terms, each chapter includes Chapter Review Problems and a Self-Test section. These questions and answers allow students to test their abilities in solving key problems related to the chapter content and provide instant reinforcement.

Concepts Review and Critical Thinking Questions This section facilitates students' knowledge of key principles, and their intuitive understanding of chapter concepts. A number of the questions relate to the chapter-opening vignette—reinforcing students' critical-thinking skills and the learning of chapter material.

Concepts Review and Critical Thinking Questions

- (LO3) What effect would the following actions have on a firm's current ratio? Assume that net working capital is positive.
 - a. Inventory is purchased.b. A supplier is paid.
 - c. A short-term bank loan is repaid.
 - d. A long-term debt is paid off early.
 - e. A customer pays off a credit account.f. Inventory is sold at cost.
 - Inventory is sold at cost.
 g. Inventory is sold for a profit.

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(LO3) In recent years, Cheticamp Co. has greatly increased
its current ratio. At the same time, the quick ratio has fallen.
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closely watched for semiconductor manufacturers. A ratio of 0.93 indicates that for every \$100 worth of chips shipped over some period, only \$93 worth of new orders is received. In February 2006, the semiconductor equipment industry's book-tobill reached 1.01, compared to 0.98 during the month of January 2006. The book-to-bill ratio reached a low of 0.78 during October 2006. The three-month average of worldwide bookings in January 2006 was \$1.30 billion, an increase of 6 percent over January 2005, while the three-month average of billings in February 2006 was \$1.29 billion, a 2 percent increase from February 2005. What is this ratio intended to measure? Why do you think it is so closely watched?

Questions and Problems We have found that many students learn better when they have plenty of opportunity to practise; therefore, we provide extensive end-of-chapter questions and problems. These are labelled by topic and separated into three learning levels: Basic, Intermediate, and Challenge. Throughout the text, we have worked to supply interesting problems that illustrate real-world applications of chapter material. Answers to selected end-of-chapter material appear in Appendix B (now available on Connect).

As described earlier in this Preface, students' learning and understanding of the chapter content is further supported by the following end-of-chapter materials:

- Internet Application Questions
- Mini Cases

2.

• Suggested Readings (now available on Connect)

connect

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Connect content Prepared by Merlyn Foo, Athabasca University.

Instructor's Manual Prepared by Lewis Stevenson, Brock University. The Instructor's Manual contains two main sections. The first section contains a chapter outline with lecture tips, real-world tips, and ethics notes. The second section includes detailed solutions for all end-of-chapter problems.

Computerized Test Bank Prepared by Sepand Jazzi, Kwantlen Polytechnic University. The computerized test bank is available through EZ Test Online—a flexible and easy-to-use electronic testing program—that allows instructors to create tests from book-specific items. EZ Test accommodates a wide range of question types and allows instructors to add their own questions. Test items are also available in Word format (Rich text format). For secure online testing, exams created in EZ Test can be exported to WebCT and Blackboard. EZ Test Online is supported at mhhe.com/eztest where users can download a Quick Start Guide, access FAQs, or log a ticket for help with specific issues.

PowerPoint® Presentation Prepared by Anne Inglis. The Microsoft[®] PowerPoint[®] Presentation slides have been enhanced to better illustrate chapter concepts.

Image Bank All figures and tables are available in digital format on the McGraw-Hill Connect[™] site associated with this text, which can be found at mcgrawhillconnect.ca.

Excel® Templates (with Solutions) Prepared by Brent Matheson, University of Waterloo. Excel® templates are included with solutions for end-of-chapter problems indicated by an Excel® icon in the margin of the text.

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Lyryx for Corporate Finance

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We never would have completed this book without the incredible amount of help and support we received from colleagues, editors, family members, and friends. We would like to thank, without implicating, all of you.

For starters, a great many of our colleagues read the drafts of our first and current editions. Our reviewers continued to keep us working on improving the content, organization, exposition, and Canadian content of our text. To the following reviewers, we are grateful for their many contributions to the Eighth Canadian Edition:

Mohamed Ayadi, Brock University Larry Bauer, Memorial University Jaime Morales Burgos, Trent University Bill Dawson, University of Western Ontario Chris Duff, Royal Roads University Shantanu Dutta, University of Ontario Institute of Technology Larbi Hammami, McGill University Andras Marosi, University of Alberta Brent Matheson, University of Waterloo Judy Palm, Vancouver Island University William Rentz, University of Ottawa David Roberts, Southern Alberta Institute of Technology Jun Yang, Acadia University Yuriy Zabolotnyuk, Carleton University

A special thank you must be given to Hamdi Driss, Schulich School of Business, and VijayShree Vethantham for their vigilant effort of technical proofreading and, in particular, careful checking of the solutions in the *Instructor's Manual*. Their keen eyes and attention to detail have contributed greatly to the quality of the final product.

Several of our most respected colleagues and journalists contributed essays, entitled "In Their Own Words," that appear in selected chapters. To these individuals we extend a special thanks:

Edward Altman, New York University James Darroch, York University Christine Dobby, Financial Post Robert C. Higgins, University of Washington Ken Hitzig, Accord Financial Corp. Erik Lie, University of Iowa Robert C. Merton, Harvard University Merton H. Miller, University of Chicago Heather Pelant, Barclays Global Investors Canada Jay R. Ritter, University of Florida Robert J. Schiller, Yale University Hersh Shefrin, Santa Clara University Jeremy Siegel, University of Pennsylvania Bennett Stewart, Stern Stewart & Co. Jamie Sturgeon, Financial Post Samuel Weaver, The Hershey Company David Weitzner, York University

Ganesh Kannan, recent Schulich MBA graduate, deserves special mention for his role in producing the Eighth Canadian Edition. He capably researched updates, drafted revisions, and responded to editorial queries; and his excellent input was essential to this edition.

Much credit goes to a "AAA-rated" group of people at McGraw-Hill Ryerson who worked on the Eighth Canadian Edition. Leading the team was Kimberley Veevers, Senior Product Manager, who continued her role as champion of this project by arranging unparalleled support for the development of the text and support package for this edition. Maria Chu, Senior Product Developer, efficiently and cheerfully supervised the reviews and revision as she has done for many prior editions. Production and copy-editing were handled ably by Joanne Limebeer, Supervising Editor, and Robert Templeton and Bradley T. Smith, First Folio Resource Group Inc., Copy Editors.

Through the development of this edition, we have taken great care to discover and eliminate errors. Our goal is to provide the best Canadian textbook available in Corporate Finance.

Please forward your comments to: Professor Gordon S. Roberts Schulich School of Business, York University 4700 Keele Street, Toronto, Ontario M3J IP3

Or, email your comments to groberts@schulich.yorku.ca.

Stephen A. Ross Randolph W. Westerfield Bradford D. Jordan Gordon S. Roberts

Chapters	Selected Topics of Interest	Benefits to You			
PART ONE OVERVIEW OF CORPORATE FINANCE					
Chapter 1 Introduction to Corporate Finance	• <i>New material:</i> Perspective on the financial crisis of 2007–2009 and its aftermath, in particular, the European government debt credit crisis	• Links to headlines on financial crisis.			
	Goal of the firm and agency problems	• Stresses value creation as the most fundamental aspect of management and describes agency issues that can arise.			
	• Ethics, financial management, and executive compensation	• Brings in real-world issues concerning conflicts of interest and current controversies surrounding ethical conduct and management pay.			
Chapter 2 Financial Statements,	• <i>New material:</i> Financial statements conforming to IFRS	• Links to current practice.			
Cash Flow, and Taxes	• Cash flow vs. earnings	• Defines cash flow and the differences between cash flow and earnings.			
	Market values vs. book values	• Emphasizes the relevance of market values over book values.			
PART TWO FINAN	CIAL STATEMENTS AND LONG-TERM FIN	ANCIAL PLANNING			
Chapter 3 Working with Financial Statements	• Using financial statement information	• Discusses the advantages and disadvantages of using financial statements.			
Chapter 4 Long-Term Financial Planning and Corporate	• Explanation of alternative formulas for sustainable and internal growth rates	• Explanation of growth rate formulas clears up a common misunderstanding about these formulas and the circumstances under which alternative formulas are correct.			
Growth	 Thorough coverage of sustainable growth as a planning tool 	• Provides a vehicle for examining the interrelationships among operations, financing, and growth.			
PART THREE VALU	ATION OF FUTURE CASH FLOWS				
Chapter 5 Introduction to Valuation: The Time Value of Money	• First of two chapters on time value of money	• Relatively short chapter introduces the basic ideas on time value of money to get students started on this traditionally difficult topic.			
Chapter 6 Discounted Cash Flow Valuation	• Second of two chapters on time value of money	• Covers more advanced time value topics with numerous examples, calculator tips, and Excel spreadsheet exhibits. Contains many real-world examples.			
Chapter 7 Interest Rates and	• <i>New material:</i> Discussion of bond fund strategies at time of European government debt crisis	• Links chapter material to current events.			
Bond Valuation	• "Clean" vs. "dirty" bond prices and accrued interest	• Clears up the pricing of bonds between coupon payment dates and also bond market quoting conventions.			
	• Bond ratings	• Up-to-date discussion of bond rating agencies and ratings given to debt. Includes the latest descriptions of ratings used by DBRS.			
Chapter 8	• New material: Stock valuation using multiples	• Broadens coverage of valuation techniques.			
Stock Valuation	• <i>New material:</i> Examples of shareholder activism at Canadian Pacific and Magna International	• Expands governance coverage and links chapter material to current events.			
PART FOUR CAPITAL BUDGETING					
Chapter 9 Net Present Value and	• <i>New material:</i> Enhanced discussion of multiple IRRs and modified IRR	• Clarifies properties of IRR.			
Other Investment Criteria	• <i>New material:</i> Practice of capital budgeting in Canada	• Current Canadian material demonstrates relevance of techniques presented.			
	• First of three chapters on capital budgeting	• Relatively short chapter introduces key ideas on an intuitive level to help students with this traditionally difficult topic.			
	• NPV, IRR, payback, discounted payback, and accounting rate of return	• Consistent, balanced examination of advantages and disadvantages of various criteria.			