

CORPORATE FINANCE

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THIRD CANADIAN EDITION

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Dedication

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

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

To my family and friends for all the love, support, encouragement, and motivation. — D. S.

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Professor Stangeland was born and raised in Edmonton, Alberta, where he learned to appreciate the outdoors including running, cycling, hiking, and skiing and, in the winter, travelling to warmer climates.

Preface

The first Canadian edition was written just as the financial crisis of 2008–2009 was unfolding. One thing that was reinforced by the financial crisis and the continuing crises that followed is the need to understand finance so that correct decision making is done. As we said in the first edition, understanding finance is important and is the purpose of this book:

In our over 50 years of combined teaching experience, we have found that leaving out core material deemed “too hard” actually makes the subject matter less accessible. 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. Therefore, our primary motivation for writing this book was to equip students with a solid grounding in the core financial concepts and tools needed to make good decisions.

There is little doubt that one of the most important contributing factors to the financial crisis was that many practitioners who should have known better did not understand, or chose to ignore, the core concepts that underlie finance in general (and the pedagogy in this book in particular), leading them to make many very bad decisions.

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 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, and facts to accurately reflect developments in the field in the last three years. Given the success of the first two editions, we focused substantive changes on areas where there was clear evidence that such change would be beneficial. Specific highlights include the following:

- As painful as the financial crisis was, there is a silver lining: it provides a valuable pedagogical illustration of what can go wrong when practitioners ignore the core concepts that underlie financial decision making. We integrate this important lesson into the book in a series of contextual boxes we call **Financial Crisis boxes**.
- Chapter 3 – Arbitrage and Financial Decision Making has undergone several important changes:
 - We moved the appendix material into the body of the chapter because of feedback indicating the material on the price of risk was useful to understand early in the text.
 - We introduced primitive securities so that instructors could set up easier replicating-portfolio questions that do not require the more complicated math.

- We added a new online appendix. Appendix 3A, *The Math Behind Solving for the Price of a Risky Security*, shows the math behind creating replicating portfolios using systems of equations and matrix algebra.
- We have rearranged the topics in Part 3, Basic Valuation, so that bond valuation immediately follows Chapter 5, where interest rates are covered. This gives a direct application of the time value and interest rate concepts just covered. In the appendix to Chapter 6, we explicitly describe the pure expectations and liquidity preference theories for the term structure of interest rates. We follow bond valuation with stock valuation in Chapter 6, and before moving into the capital budgeting chapters. With stock valuation, we briefly describe the free cash flow and leave further development of this topic to Chapter 9 on capital budgeting.
- As more instructors are requiring students to use Excel rather than a financial calculator, we added more Using Excel boxes to the text. In addition, for those who prefer financial calculators, we added instructions on their use in a new appendix for Chapter 4.
- Understanding options continues to gain importance given events and failings in the recent financial crises we have witnessed. In addition, an understanding of options helps to understand capital structure theory—particularly with respect to indirect costs of financial distress. Thus, we moved the placement of the option chapters so they fall between the Risk and Return section and the capital structure material. For many instructors the first options chapter, Chapter 14, will be sufficient to bring options discussion into further material on capital structure and risk management. We made the discussion more explicit regarding option payoffs and option profits and took reviewers' advice to simplify profits to be equal to the payoff minus the initial option cost (rather than the future value of the cost as in the previous edition).
- We substantially rewrote Chapter 30, the risk management chapter, to compare and contrast how different risk management techniques can be used to hedge exposure to risk. Several new examples and end of chapter questions have been added.
- We have additional practitioner interviews that incorporate an “inside” perspective on the financial crisis and the European crises. Three new interviews have been added, including one with Myron Scholes who comments on the Black-Scholes option pricing model and how the crises demonstrated that the assumptions behind such models are quite important to understand.
- Finally, for this edition, students and instructors can access and download the data cases from MyFinanceLab.

THE LAW OF ONE PRICE AS THE 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 net present value and the time value of money in Chapter 3, *Arbitrage and Financial Decision Making*. 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 and connect theory to practice.

PART-BY-PART OVERVIEW

Parts 1 and 2 lay the foundation for our study of corporate finance. Chapter 1 introduces the corporation and other business forms. We examine the roles of the financial manager and financial markets, as well as conflicts surrounding ownership and control of corporations. Chapter 2 reviews basic corporate accounting principles and financial statements. It now includes a number of additional ratios and the DuPont identity.

Part 2 presents the basic tools that are the cornerstones of corporate finance. As we have already pointed out, Chapter 3 introduces the Law of One Price and net present value as the basis of the unifying framework that will guide the student through the course. A brief introduction to risk is included so students begin to understand how risk affects asset pricing. An optional appendix is available online for instructors who want to get into the mathematics of replicating portfolios or want to introduce primitive securities for valuing other securities. Chapter 4 introduces the time value of money and describes methods for estimating the timing of cash flows and computing the net present value of various types of cash flow patterns. A new online appendix on using a financial calculator has been added to this chapter. Chapter 5, *Interest Rates*, provides an extensive overview of issues that arise in estimating the appropriate discount rate.

Part 3 opens with bond valuation in Chapter 6 and is an excellent way to show a direct application of the time value and interest rate material from Chapters 4 and 5. Chapter 7 includes stock valuation and material on market efficiency. It is another good application of the time value material from Chapter 4 and the market efficiency section reinforces the separation principles from Chapter 3. Chapter 8 begins the coverage on capital budgeting and we present and critique alternatives to net present value for evaluating projects. We explain the basics of valuation for capital projects in Chapter 9 and provide a clear and systematic presentation of the difference between earnings and free cash flow and give a solid understanding of Canadian tax effects from capital cost allowance (CCA).

The flexible structure of Part 4 allows professors to tailor coverage of risk and return to their needs—be it for a theory- or practice-heavy emphasis. Chapter 10, *Capital Markets and the Pricing of Risk*, provides the keys to understanding risk and return. The chapter also explains the distinction between diversifiable and systematic risk. After this comprehensive yet succinct treatment, professors can choose to continue on to the theory, now centralized in Chapter 11, *Optimal Portfolio Choice and the Capital Asset Pricing Model*, which presents the CAPM and develops the details of mean-variance portfolio optimization. Alternatively, professors can proceed directly to Chapter 12, *Estimating the Cost of Capital*, which is a practically focused chapter on the cost of capital. Chapter 13 examines the role of behavioural finance and ties investor behaviour to the topic of market efficiency and alternative models of risk and return. Some professors may want to supplement the market efficiency material in Chapter 7 with sections 13.1 to 13.6.

Part 5 focuses on the role of options in investing and financing decisions. Chapter 14 introduces financial options, their payoffs and profits, and put–call parity. Chapter 15 presents commonly used techniques for pricing options. Chapter 16 highlights the role of real options in capital budgeting and features a section on ordering multistage investments.

Part 6 addresses how a firm should raise the funds it needs to undertake its investments and the firm's resulting capital structure. We focus on examining how the choice of capital structure affects the value of the firm in the perfect world in Chapter 17,

and with frictions such as taxes and agency issues in Chapters 18 and 19. Chapter 19 features new coverage of the asset substitution problem and debt overhang and relates these items to options concepts covered Chapter 14. We focus on payout policy in Chapter 20.

In Part 7, we return to the capital budgeting decision with the complexities of the real world. Chapter 21 introduces 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. We present these traditionally difficult but important ideas by emphasizing the underlying assumptions and core principles behind them, moving through progressively more complex ideas. This organization allows professors to delve as deeply into these techniques as is appropriate for their needs. Chapter 22 presents a capstone case for the first six parts of the book that applies the techniques developed up to this point to build a valuation model for a firm, Ideko Corp., using Excel.

In Part 8, we explain the institutional details associated with alternative long-term financing sources. Chapter 23 describes the process a company goes through when it raises equity capital. In Chapter 24, we review how firms can use the debt markets to raise capital and the role of asset-backed securities, collateralized debt obligations, and mortgage-backed securities in the financial crisis. Chapter 25 introduces leasing as an alternative and in the lease analysis treats the CCA tax shields in a manner consistent with the presentation in Chapter 9.

In Part 9, we turn to the details of running the financial side of a corporation on a day-to-day basis. In Chapter 26, we discuss how firms manage their working capital. In Chapter 27, we explain how firms manage their short-term cash needs.

Part 10 addresses special topics. Chapter 28 discusses mergers and acquisitions, and Chapter 29 provides an overview of corporate governance. In Chapter 30, we consider corporations' use of insurance and financial derivatives to manage risk. We compare and contrast the different risk management techniques and present several new examples on practical risk management. Chapter 31 introduces the issues a firm faces when making a foreign investment and addresses the valuation of foreign projects.

CUSTOMIZE YOUR APPROACH

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 1 and 3–12; if time allows, or students are previously familiar with the time value of money, add on Chapters 17–19.

Semester-long course: Incorporate chapters from Part 5, *Options*, and Part 10, *Special Topics*, as desired.

Single mini-semester: Assign Chapters 1, 3–10, 17, and 18 if time allows.

CANADIAN CONTENT AND CONTEXT

A Canadian text should reflect Canadian realities, and show how they fit into the bigger picture. The Canadian tax system, for example, differs significantly from that

of the United States in regard to dividends, capital gains, capital cost allowance, and leasing. We use the relevant Canadian tax code to make the examples more realistic to students and to give them exposure to how Canadian taxation works. There are many institutional and market differences between Canada and the United States. We have incorporated information on both countries' institutions and markets and often include comparisons with other countries. We feel it is important that students understand Canada's relative positioning on a number of issues related to markets, the financial crisis, corporate governance, and corporate finance. To this end, we have selected Canadian examples, when appropriate, for use in the text. Many of the companies we use as examples are ones known by Canadian students, companies that have had interesting successes or failures. We feel that, in addition to learning corporate finance, students should have familiarity with Canadian business and its rich history.

STUDENT SUPPORT

MyFinanceLab

Educators know it. Students know it. It's that inspired moment when something that was difficult to understand suddenly makes perfect sense. Our MyLab products have been designed and refined with a single purpose in mind—to help educators create that moment of understanding with their students.

MyFinanceLab delivers **proven results** in helping individual students succeed. It provides **engaging experiences** that personalize, stimulate, and measure learning for each student. And, it comes from a **trusted partner** with educational expertise and an eye on the future.

MyFinanceLab can be used by itself or linked to any learning management system. To learn more about how MyFinanceLab combines proven learning applications with powerful assessment, visit www.myfinancelab.com.

MyFinanceLab—the moment you know.

COURSESMART

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PEARSON eTEXT

Pearson eText gives students access to the text whenever and wherever they have access to the Internet. eText pages look exactly like the printed text, offering powerful new functionality for students and instructors. Users can create notes, highlight text in different colours, create bookmarks, zoom, click hyperlinked words and phrases to view definitions, and view in single-page or two-page view. Pearson eText allows for quick navigation to key parts of the eText using a table of contents and provides full-text search. The eText may also offer links to associated media files, enabling users to access videos, animations, or other activities as they read the text.

INSTRUCTOR SUPPORT

SOLUTIONS MANUAL

This essential companion to the text provides detailed, accuracy-verified solutions to every chapter problem. Spreadsheet solutions to selected chapter problems and Data Cases are available for download from Pearson's online catalogue (vig.pearsoned.ca).

INSTRUCTOR'S MANUAL

Corresponding to each chapter, the Instructor's Manual provides a chapter overview and outline correlated to the PowerPoint Lecture Notes, learning objectives, a guide to worked examples in the PowerPoint Lecture Notes, and a listing of chapter problems with Excel Spreadsheets (available for download from Pearson's online catalogue at vig.pearsoned.ca).

TEST BANK

The Test Bank provides a wealth of accuracy-verified testing material. It is made available in Word format (Test Item File) and in electronic format (TestGen). The wide selection of multiple-choice, short answer, and essay questions are qualified by difficulty level and skill type and correlated to chapter topics. Numerical-based problems include step-by-step solutions. The Test Bank is available for download from Pearson's online catalogue (vig.pearsoned.ca).

POWERPOINT LECTURE PRESENTATION

The PowerPoint Lecture Presentation offers outlines of each chapter with graphs, tables, and key terms and concepts. Fresh 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. The PowerPoints are available for download from Pearson's online catalogue (vig.pearsoned.ca).

IMAGE LIBRARY

The Image Library contains all of the numbered figures and tables in the textbook, and is available for download from Pearson's online catalogue (vig.pearsoned.ca).

COURSESMART FOR INSTRUCTORS

CourseSmart goes beyond traditional expectations—providing instant, online access to the textbooks and course materials you need at a lower cost for students. And even as students save money, you can save time and hassle with a digital eTextbook that allows you to search for the most relevant content at the very moment you need it. Whether it's evaluating textbooks or creating lecture notes to help students with difficult concepts, CourseSmart can make life a little easier. See how when you visit www.coursesmart.com/instructors.

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Now that we have explained what is in this book, we can turn to thanking the people that made it happen. As any textbook writer will tell you, you cannot write a textbook of this scope without a substantial amount of help. First and foremost, we thank Gary Bennett, VP and editorial director of Higher Education at Pearson Canada, whose vision of a high-quality corporate finance text for the Canadian market continues to inspire our writing. Claudine O'Donnell's knowledge, experience, leadership, and patience kept the various aspects of the project moving along smoothly. Toni Chahley needs special thanks for her hard work, encouragement, and understanding in her role as senior developmental editor—she is a true pleasure to work with. Her focus on getting the chapters written and moved through the developmental process was amazing. We also thank Rachel Thompson, as project manager, who managed the stages of the book with skill. Marg Bukta provided excellent copy editing, and we thank her for making the chapters more readable and grammatical. Mengxin Zhao, the technical checker, also gets our thanks for her keen eye to detail and the ability to catch and correct any error before the final printing. We are also thankful to Imee Salumbides for her skilful oversight of the MyFinanceLab project—a formidable undertaking in its own right. Of course, we also thank Leigh-Anne Graham for leading the successful marketing of the text in the Canadian market. Finally, we would like to thank our MyFinanceLab content developmental author, Therese Trainor.

A corporate finance textbook is the product of the talents and hard work of many talented colleagues. We're appreciative of the work of Marlene Bellamy and Conor Vibert in conducting the interviews that provide a critically important perspective, and to the interviewees who graciously provided their time and insights.

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. Inspiration is one thing; actually undertaking the task is another. His book, *A History of the Theory of Investments: My Annotated Bibliography*, was indispensable—it provided the only available reference of the history of finance. As will be obvious to any reader, we have used it 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, Randall Morck, Stephen Ross, Richard Roll, and Gordon Sick. 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

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*Jonathan Berk
Peter DeMarzo
David Stangeland*

CONTRIBUTORS

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Jun Zhou, *Dalhousie University*

Teaching Students to Think Finance

With a consistency in presentation and an innovative set of learning aids, *Corporate Finance*, Third Canadian Edition, 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

NOTATION	
r	interest rate
C	cash flow
FV_n	future value on date n
PV	present value; annuity

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

- **Notation Boxes:** Each chapter begins with a Notation box that defines the variables and the acronyms used in the chapter and serves as ‘legend’ for students’ reference.

$$FV_n = C_0 \times \underbrace{(1+r) \times (1+r) \times \cdots \times (1+r)}_{n \text{ times}} = C_0(1+r)^n$$

- **Numbered and Labelled Equations:** The first time a full equation is given in notation form it is numbered. Key equations are titled and revisited in the summary and in end papers.

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

TABLE 21.1					
SPREADSHEET		EXPECTED FREE CASH FLOW FROM AVCO'S RFX PROJECT*			
	Year	0	1	2	3
Incremental Earnings Forecast (\$ million)					
1	Sales	—	60.00	60.00	60.00
2	Cost of Goods Sold	—	(25.00)	(25.00)	(25.00)
3	Gross Profit	—	35.00	35.00	35.00
4	Operating Expenses	(6.67)	(9.00)	(9.00)	(9.00)
5	Depreciation	—	(6.00)	(6.00)	(6.00)
6	EBIT	(6.67)	20.00	20.00	20.00
7	Income Tax at 40%	2.67	(8.00)	(8.00)	(8.00)
8	Unlevered Net Income	(4.00)	12.00	12.00	12.00
Free Cash Flow					

PRACTICE FINANCE TO LEARN FINANCE

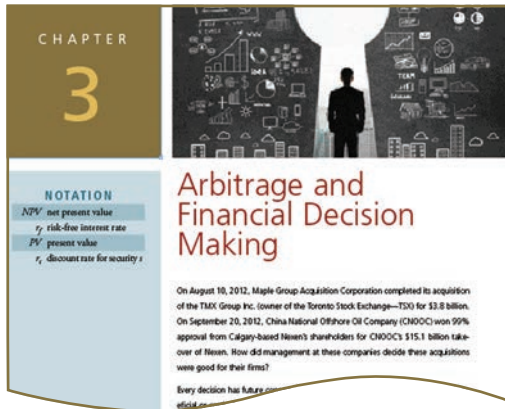
Working problems is the proven way to cement and demonstrate an understanding of finance.

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

END-OF-CHAPTER MATERIALS REINFORCE LEARNING

- Testing understanding of central concepts is crucial to learning finance.
- **Chapter Summaries and Key Terms lists** are vital aids for studying and review.
- **Further Readings** direct the student reader to seminal studies and late-breaking research to encourage independent study.
- **Data Cases** present in-depth scenarios in a business setting with questions designed to guide students’ analysis, and are now found on the MyFinanceLab. Many questions involve the use of Internet resources.

Bridging Theory and Practice



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, as well as mistakes made in practice.
- **Worked Examples** accompany every important concept using a step-by-step procedure that illustrates both Problem and Solution. Clear labels make them easy to find for help with homework or studying. Many include an Excel spreadsheet calculator.

COMMON MISTAKE DISCOUNTING ONE TOO MANY TIMES

The perpetuity formula assumes that the first payment occurs at the end of the first period (at date 1). Sometimes perpetuities have cash flows that start later in the future. In this case, we can adapt the perpetuity formula to compute the present value, but we need to do so carefully to avoid a common mistake.

To illustrate, consider the graduation party described in Example 4.6. Rather than starting immediately, suppose that the first party will be held two years from today. How would this delay change the amount of the donation required?

Now the timeline looks like this:

We need to determine the present value of these cash flows, as it tells us the amount of money in the bank needed today to finance the future parties. We cannot apply the perpetuity formula directly, however, because these cash flows are not exactly a perpetuity as we defined it. Specifically, the cash flow in the first period is "missing." But consider the situation on date 1—that that

on date 1 to have enough to start the party. We rewrite the timeline as follows:

Our goal can now be restated more simply: do we need to invest today to have \$375,000? This is a simple present value calculation:

$$PV_0 = \$375,000 / 1.08 = \$347,222$$

A common mistake is to discount the \$3 because the first party is in two periods. If present value formula for the perpetuity also the cash flows to one period prior to the first cash flow. Note that the length of the period is determined time period between cash flows. In the at the present value for the perpetuity but flows back one year before the first cash the cash flows and interest rate are yearly. I had monthly cash flows (and we used the monthly discount rate), then the present for the perpetuity would bring the cash flow month before the first cash flow. Keep in s

EXAMPLE 2.4

COMPUTING PROFITABILITY AND VALUATION RATIOS

Problem

Consider the following data from December 31, 2011, for CP and CN Rail (in millions of dollars).

	Canadian Pacific Railway Limited (CP)	Canadian National Railway Company
Revenue	5,477	9,828
Operating Income	967	3,296
Net Income	570	2,457
Market Capitalization	11,732	35,434
Cash	47	891
Debt	4,745	6,576

Compare CP's and CN's operating margin, net profit margin, P/E ratio, and enterprise value to operating income and value.

Solution

CP had an operating margin of $967/5477 = 17.7\%$, a net profit margin of $570/5477 = 10.4\%$, and a P/E ratio of $11,732/570 = 20.6$. Its enterprise value was $\$11,732 - \$47 = \$11,685$ million, which has a ratio of $35,434/967 = 36.7$ to revenue.

CN had an operating margin of $3296/9828 = 33.6\%$, a net profit margin of $2457/9828 = 25.0\%$, and a P/E ratio of $35,434/2457 = 14.4$. Its enterprise value was $\$35,434 - \$891 = \$34,543$ million.

INTERVIEW WITH MYRON S. SCHOLES

Dr. Myron Scholes is co-creator of the Black-Scholes options pricing model, for which he won the Nobel Prize for Economic Sciences in 1997. He is the Frank E. Buck Professor of Finance, Emeritus, at Stanford Graduate School of Business.

QUESTION: At the time you derived the Black-Scholes formula, did you anticipate its influence in the financial world?

ANSWER: Fischer Black and I believed that the option-pricing technology would be used to value existing contracts such as options on stock, warrants, corporate debt, and mortgage contracts. We did not anticipate that in the future our technology would be used to develop and price new instruments, although we were not alone. For example, several journals rejected our paper. Only after Myron Miller explained to the editors of the *Journal of Political Economy* that our findings were not arcane but had general importance did it accept our paper. Fischer and I rewrote the paper to include a description of the importance of options in the economy, such as how to value the stock of a corporation with risky debt in its capital structure.

QUESTION: What is the most important contribution of the Black-Scholes formula?

however, to illustrate the application of the model. This illustration became the Black-Scholes model. The underlying technology does not assume the constancy of other parameters. What impressed and particularly pleased me was the realization that investors could price an option without knowing the expected rate of return on the underlying asset or the expected terminal value of the option at its maturity. I believe that the technology to value options and the underlying economics to support its development were the most important part of our paper.

QUESTION: How did you arrive at the insight that you could create a risk-free portfolio out of the stock and option?

ANSWER: We first needed to determine how much stock to short against a long position in the underlying option, such that small movements in the price of the underlying stock would be offset by opposite movements in the price of the option—a hedged position. As explained above, if the return on this combined stock and option investment was uncorrelated with the market portfolio (assuming that CAPM held over short time periods—i.e., the returns were normally distributed).

APPLICATIONS THAT REFLECT REAL PRACTICE

Corporate Finance, Third Canadian Edition, features actual companies and leaders in the field.

- Real-company examples open each chapter
- Interviews with notable practitioners are featured in many chapters
- General Interest boxes highlight timely material from financial publications that shed light on business problems and real-company practices