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PRINCIPLES *of* CORPORATE FINANCE

SIXTH EDITION

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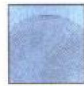

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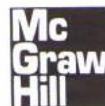

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Sixth edition

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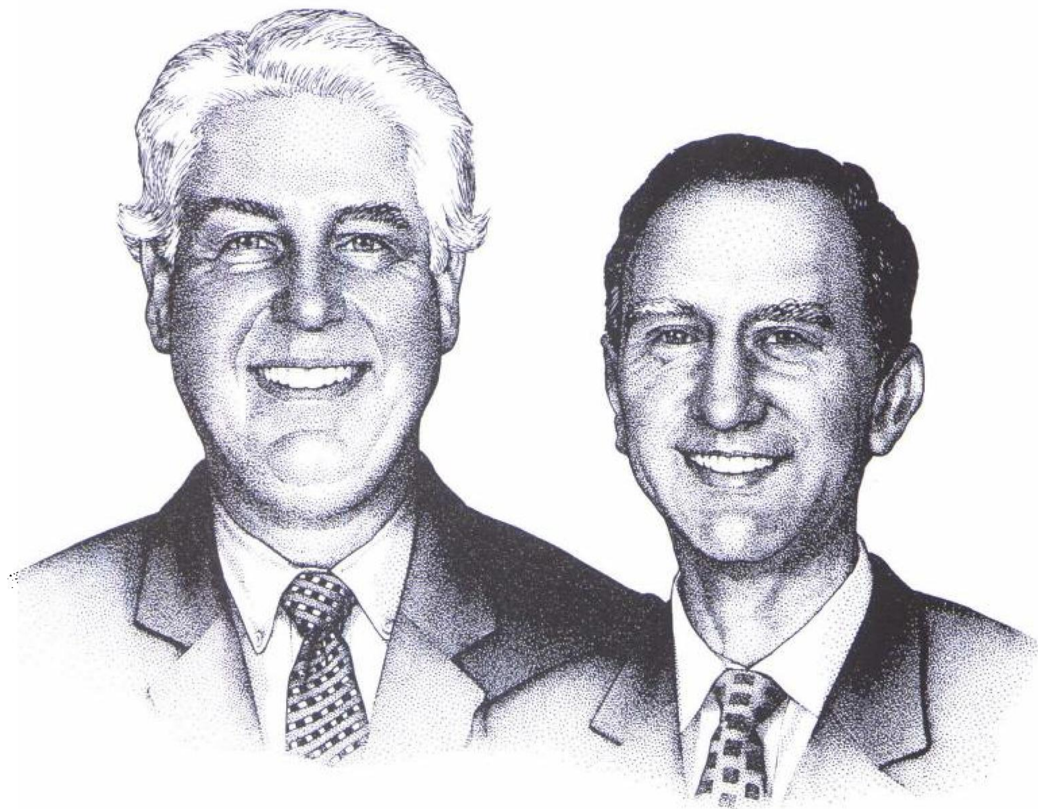

STEWART C. MYERS RICHARD A. BREALEY

Welcome to the 6th edition of *Principles of Corporate Finance*. We are proud of the success of previous editions, and we have done our best to make this edition better.

This book may be your first view of the world of modern finance. If so, you will read first for new ideas, for an understanding of how finance theory translates to practice, and occasionally, we hope, for entertainment. But eventually you will be in a position to make financial decisions, not just study them. At that point you can turn to this book as a reference and guide.

Of course finance will not stand still. Basic concepts will not change, but markets, institutions and applications will. At some point you will want something more up-to-date on your bookshelf. We suggest the 7th and subsequent editions of this book. Irwin/McGraw-Hill has agreed to sell the next edition of this book at half price to purchasers of this Career Edition. The only requirement is that you buy a new copy of the book and send in the enclosed card to register in the Brealey/Myers *Principles of Corporate Finance* database. You will be informed when the next edition appears and can then trade in your book for the new model.

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FROM THE AUTHORS

Some Commonly Used Symbols

Symbol	Meaning
APV	Adjusted present value
BV	Book value
C_t	Cash flow at time t
CEQ_t	Certainty-equivalent cash flow at time t
DIV_t	Dividend payment at time t
D	Market value of firm's debt
DEP_t	Depreciation in year t
DF_t	Discount factor for cash flow in period t
e	2.718 (base for natural logarithms)
E	Market value of firm's equity
EPS_t	Earnings per share in year t
EX	Exercise price of option
f_t	Expected return on a one-period forward loan maturing at time t
$f_{\$/£}$	Forward rate of exchange between dollars and pounds
g	Growth rate
i_t	Expected inflation in year t
IRR	Internal rate of return
LCF_t	Lease's cash outflow in year t
NPV	Net present value
P_t	Price at time t
PV	Present value
PVGO	Present value of growth opportunities
r_t	Expected rate of return (or cost of capital) in period t. We omit the subscript where the expected return is identical in each period. Sometimes we use a *second* subscript to define the date at which the investment is made. Thus, ${}_{t-1}r_t$ is the (spot) rate of return on an investment made at $t-1$ and paying off at time t.
$\tilde{r}_t$	Uncertain actual rate of return in period t
r_D	Rate of return on firm's debt
r_E	Expected rate of return on firm's equity
r_f	Risk-free interest rate
r_m	Expected rate of return on the market portfolio
$r_\$$	Dollar rate of interest
$s_{SFr/\$}$	Spot rate of exchange between Swiss francs and dollars
t	Time
T_c	Rate of corporate income tax
T_p	Rate of personal income tax
V	Market value of firm: $V = D + E$
β	Beta: A measure of market risk
δ	Delta: Hedge ratio
λ	Lambda: Market price of risk $= \frac{r_m - r_f}{\sigma_m^2}$
ρ_{12}	Rho: Correlation coefficient between investments 1 and 2
σ	Sigma: Standard deviation
σ_{12}	Covariance of investment 1 with investment 2
σ^2	Sigma squared: Variance
Σ	Capital sigma: "The sum of"

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To Our Parents

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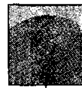
PREFACE



This book describes the theory and practice of corporate finance. We hardly need to explain why financial managers should master the practical aspects of their job, but we should spell out why down-to-earth, red-blooded managers need to bother with theory.

Managers learn from experience how to cope with routine problems. But the best managers are also able to respond to change. To do this you need more than time-honored rules of thumb; you must understand *why* companies and financial markets behave the way they do. In other words, you need a *theory* of finance.

Does that sound intimidating? It shouldn't. Good theory helps you grasp what is going on in the world around you. It helps you to ask the right questions when times change and new problems must be analyzed. It also tells you what things you do *not* need to worry about. Throughout this book we show how managers use financial theory to solve practical problems.

Of course, the theory presented in this book is not perfect and complete—no theory is. There are some famous controversies in which financial economists cannot agree on what firms ought to do. We have not glossed over these controversies. We set out the main arguments for each side and tell you where we stand.

There are also a few cases where theory indicates that the rules of thumb employed by financial managers are leading to poor decisions. Where managers appear to be making mistakes, we say so, while admitting that there may be hidden reasons for their actions. In brief, we have tried to be fair but to pull no punches.

Once understood, good theory is common sense. Therefore we have tried to present it at a common-sense level, and we have avoided proofs and heavy mathematics. There are no ironclad prerequisites for reading this book except algebra and the English language. An elementary knowledge of accounting, statistics, and microeconomics is helpful, however.

CHANGES IN THE SIXTH EDITION

This book is written for students of financial management. For many readers, it is their first look at the world of finance. Therefore in each edition we strive to make the book simpler, clearer, and more fun to read. But the book is also used as a reference and guide by practicing managers around the world. Therefore we also strive to make each new edition more comprehensive and authoritative.

We believe this edition is better for both the student and the practicing manager. Here are some of the major changes:

We have streamlined and simplified the exposition of major concepts. For example, Chapter 2 has a more intuitive explanation of why the NPV rule makes sense. Chapter 19, which covers the weighted average cost of capital and adjusted present value, has been completely rewritten, with more emphasis on "how to do it" and less on the various adjusted cost of capital formulas. (The formulas are still accessible, but in an appendix on the Web.) Chapter 28 condenses two previous chapters, on financial planning and the evaluation of financial performance, into one integrated presentation.

At the same time we have expanded the coverage of important topics. For example, the treatment of agency issues is much more extensive. We highlight agency problems in the first chapter. In Chapter 12 we have added a discussion of economic value added (EVA) and of the links between performance and management compensation. A brand-new Chapter 34 reviews corporate control and governance and looks at some of the international differences in the financial design and ownership of corporations. (Chapter 33, on mergers, is shorter and more focused as a result.)

Other examples of expanded coverage include estimates of the market risk premium (Chapter 7), factor models of expected returns (Chapter 8), market anomalies (Chapter 13), and the measurement of credit risk (Chapter 23).

This edition's international coverage is expanded and woven into the rest of the text. There is no segregated chapter on international finance. There is a chapter on international risk management, but international investment decisions are now introduced in Chapter 6, right alongside domestic investment decisions. Likewise the cost of capital for international investments is discussed in Chapter 9, and international differences in security issue procedures are reviewed in Chapter 15.

Updating was needed for all but the most basic material. There are frequent references to new financial markets and instruments. For example, the discussion of foreign exchange has been revised to recognize the birth of the euro. Other financial innovations making at least a brief appearance include Treasury index-linked bonds, credit derivatives, asset-backed bonds, and mandatory convertibles.

Of course, as every first-grader knows, it is easier to add than to subtract, but we have pruned judiciously. Some readers of the fifth edition may miss a favorite example or special topic. But new readers should find that the main themes of corporate finance come through with less clutter.

MAKING LEARNING EASIER

Each chapter of the book includes an introductory preview, a summary, and an annotated list of suggestions for further reading. There is a quick and easy quiz, a number of practice questions, a few challenge questions, and in several chapters a

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minicase. In total there are now over a thousand end-of-chapter questions. All the questions refer to material in the same order as it occurs in the chapter. Answers to the quiz questions may be found at the end of the book, along with a glossary and tables for calculating present values and pricing options.

Parts 1 to 3 of the book are concerned with valuation and the investment decision, Parts 4 to 8 with long-term financing and risk management. Part 9 focuses on financial planning and short-term financial decisions. Part 10 looks at mergers and corporate control and Part 11 concludes. We realize that many teachers will prefer a different sequence of topics. Therefore, we have ensured that the text is modular, so that topics can be introduced in a variety of orders. For example, there will be no difficulty in reading the material on financial statement analysis and short-term decisions before the chapters on valuation and capital investment.

We should mention two matters of style now to prevent confusion later. First, the most important financial terms are set out in boldface type the first time they appear; less important but useful terms are given in italics. Second, most algebraic symbols representing dollar values are shown as capital letters. Other symbols are generally lowercase letters. Thus the symbol for a dividend payment is "DIV," and the symbol for a percentage rate of return is "*r*."

SUPPLEMENTS

In this edition, we have gone to great lengths to ensure that our supplements are equal in quality and authority to the text itself.

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The Test Bank was also updated by C. R. Krishnaswamy, who included well over 1,000 new multiple-choice and short answer/discussion questions based on the revisions of the authors. The level of difficulty is varied throughout, using a label of easy, medium, or difficult.

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Greg Lowry of Macon Technical Institute created the templates in Excel. They correlate with specific concepts in the text and allow students to work through financial problems and gain experience using spreadsheets.

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Richard A. Brealey

Stewart C. Myers

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