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Corporate Finance

A Focused Approach

第 1 版

公司财务
一种关注方法

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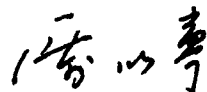
· 院长寄语 ·

北京大学光华管理学院秉承北大悠久的人文传统、深邃的学术思想和深厚的文化底蕴,经过多年努力,目前已经站在中国经济发展与企业管理研究的前列,以向社会提供具有国际水准的管理教育为己任,并致力于帮助国有企业、混合所有制企业和民营企业实现经营管理的现代化,以适应经济全球化趋势。

光华 MBA 项目旨在为那些有才华的学员提供国际水准的管理教育,为工商界培养熟悉现代管理理念、原理和技巧的高级经营管理人才,使我们的 MBA 项目成为企业发展致富之源,为学员创造迅速成长和充分发挥优势的条件和机会。

为了适应现代人才需求模式和建立中国的一流商学院,北京大学光华管理学院正在推出国际 MBA“双语双学位”培养方案;同时,为了配合北大 MBA 教育工作的展开,光华管理学院与北大出版社联合推出本套《当代全美 MBA 经典教材书系(英文影印版)》,并向国内各兄弟院校及工商界人士推荐本套丛书。相信我们这些尝试将会得到社会的支持。而社会对我们的支持,一定会使光华 MBA 项目越办越好,越办越有特色。

北京大学光华管理学院院长



出版者序言

2001年12月10日中国加入了世界贸易组织,从此,中国将进一步加大与世界各国的政治、经济、文化各方面的交流和合作,这一切都注定中国将在未来世界经济发展中书写重要的一笔。

然而,中国经济的发展正面临着前所未有的人才考验,在许多领域都面临着人才匮乏的现象,特别是了解国际贸易规则、能够适应国际竞争需要的国际管理人才,更是中国在未来国际竞争中所必需的人才。因此,制定和实施人才战略,培养并造就大批优秀人才,是我们在新一轮国际竞争中赢得主动的关键。

工商管理硕士(MBA),1910年首创于美国哈佛大学,随后MBA历经百年风雨不断完善,取得了令世人瞩目的成绩。如今,美国MBA教育已经为世界企业界所熟知,受到社会的广泛承认和高度评价。中国的MBA教育虽起步较晚,但在过去10年里,中国的MBA教育事业发展非常迅速,也取得了相当显著的成绩。现在国内已经有50多所高等院校可以授予MBA学位,为社会培养了3000多名MBA毕业生,并有在读学员2万多人。

目前,国内的MBA教育市场呈现一片繁荣景象,但繁荣的背后却隐藏着种种亟待解决的问题。其中很大一部分问题的成因是因为目前我国高校使用的教材内容陈旧,与国外名校的名牌教材差距较大,在教学内容、体系上也缺乏与一流大学的沟通。为适应经济全球化,国家教育管理部门曾要求各高校大力推广使用外语讲授公共课和专业课,特别是在我国加入WTO后急需的上百万人才中,对MBA人员的需求更是占1/3之多,所以,大力开展双语教学,适当引进和借鉴国外名牌大学的原版教材,是加快中国MBA教育步伐,使之走向国际化的一条捷径。

目前,国内市场上国外引进版教材也是新旧好坏参差不齐,这就需要读者进行仔细的甄别。对于国外原版教材的使用,在这里我们要提几点看法。国外每年出版的教材多达几万种,如果不了解国外的教材市场,不了解国外原版教材的品质就可能找不到真正适合教学和学习的好的教材。对于不太了解外版教材的国内读者来说,选择教材要把握以下几点,即:选择国外最新出版的书籍;选择名校、名作者的书籍;选择再版多次并且非常流行的书籍。综合以上几点来看,目前国内市场上真正出新、出好、出精的MBA教材还是不多的。基于以上认识,北京大学出版社推出了《当代全美MBA经典教材书系(英文影印版)》,本套丛书的筛选正是本着以上提到的几点原则,即:出新、出好、出精。经过北京大学及国内其他著名高校的知名学者的精心挑选,本套丛书汇集了美国管理学界各个学科领域专家的权威巨著,称得上是一套优中选精的丛书。本套丛书现在已经推出了MBA主干课程、会计专业、金融专业课程教程三个系列,共45个品种。以后,我们还将陆续推出更多专业的英文影印版书籍。

致谢

本套教材是我社与国外一流专业出版公司合作出版的,是从大量外版教材中选出的最优秀的一部分。在选书的过程中我们得到了很多专家学者的支持和帮助,可以说每一本书都经过处于教学一线的专家、学者们的精心审定,本套英文影印版教材的顺利出版离不开他们的无私帮助,在此,我们对审读并对本套图书提出过宝贵意见的老师们表示衷心的感谢,他们是(按拼音排序):

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出版声明

本套丛书是对国外原版教材的直接影印,由于各个国家政治、经济、文化背景的不同,原作者所持观点还请广大读者在阅读过程中加以分析和鉴别。我们希望本套丛书的出版能够促进中外文化交流,加快国内经济管理专业教学的发展,为中国经济走向世界做出一份贡献。

我们欢迎所有关心中国 MBA 教育的专家学者对我们的工作进行指导,欢迎每一位读者给我们提出宝贵的意见和建议。

北京大学出版社政经法编辑部

2003 年 1 月

关于本书

适用对象

本书适用于大学高年级财经类专业课程和 MBA 相关课程。

内容简介

Ehrhardt 和 Brigham 拥有编写教科书的丰富经验。本书重点阐述了每个 21 世纪 MBA 都需掌握的财务学基本概念、技能和技术应用,而且内容精练:(1) 提供公司财务所有重要概念的深入分析;(2) 一学期课程能够修完所有章节。

作者简介

Eugene F. Brigham 从 1971 年开始在 University of Florida 授课,是 University of Florida 的名誉研究教授。他是 University of California-Berkeley 的工商管理硕士和博士。他的本科学士学位是在 University of North Carolina 获得的。他曾在 the University of Connecticut, the University of Wisconsin 和 the University of California-Los Angeles 授过课。Brigham 博士拥有 40 多篇关于资本成本、资本结构、财务管理以及其他方面的论文。他作为作者或联合作者编写的有关财务管理和经济学管理的教材被美国 1000 多所大学使用,并同时被翻译成多国语言在全世界使用。他为美国联邦和州政府做过大量电气、天然气和电话费用的实证案例,也是很多政府机构和公司的顾问,其中有美联储、联邦家庭贷款银行委员会、美国电信局政策委员会和兰德公司。他还担任过美国金融管理协会的主席。Brigham 博士除了编写教材外,一直忙于教学、咨询和做研究。

主要特色

独特性:惟一一本教材:(1)强调现金流方法对公司定价的影响;(2)强调财务活动对公司价值的影响;(3)将公司治理结构等相关问题综合在一起分析。

网络资源:每章的文献提供网络资源,可以获取有用的金融数据,其中包括股票价格、财务报表、财务比率(公司和行业)以及各种利率。

网络资料:本书网站提供的指导性链接,可以找到有用的网上资料。

应用:工具箱 Excel 表格演示章节中概念的金融应用。大量屏幕点击提供小型指导,告诉学生 Excel 的功能和特点。

小案例:这些案例包括很多电子数据表,这些电子数据表演示案例中 PowerPoint 的计算结果,这就使得教师可以在课堂上把 PowerPoint 和 Excel 紧密联系起来。

符号:收益率符号 r 和大多数投资学教材一致。

简要目录

序言

第一部分 构建公司财务的基础

1. 公司财务和金融环境总览

2. 货币的时间价值

3. 风险和收益

第二部分 证券和项目定价

4. 债券和其定价
5. 股票和其定价
6. 资本成本
7. 资本预算基础:现金流定价
8. 现金流估价和风险分析
- 第三部分 公司定价
9. 财务报表、现金流和税收
10. 财务报表分析
11. 财务计划和财务报表预测
12. 公司定价、以定价为基础的管理和公司治理
- 第四部分 公司融资

教辅产品

1. 习题库/0-324-18041-1
2. 学习指南/0-324-18040-3

13. 资本结构决策
14. 股东分配:红利和再回购
- 第五部分 特别主题
15. 跨国公司财务管理
16. 营运资金管理
17. 期权定价模型应用到实务期权
- 附录
- 词汇表
- 姓名索引
- 主题索引

3. 教师手册和资源 CD-ROM/0-324-18039-X
4. 教师手册/0-324-18038-1

Preface

When we began planning this book, we had four goals in mind: (1) to create a book that would help people make better financial decisions, (2) to motivate students by demonstrating that finance is both interesting and relevant, (3) to make the book clear enough for students to go through the material without wasting time trying to figure out what we were trying to say, and (4) to provide a book that covers the core material necessary for an introductory MBA course without all the other interesting-but-not-essential material that is contained in most MBA texts. This last goal is the main factor that differentiates *Corporate Finance: A Focused Approach* from the other MBA texts.



For more information about the text, visit the web site at <http://ehrhardt.swcollege.com>.

Finance theory and applications have dramatically expanded during the last decade, and so have finance textbooks, including some that we have written. As a result, professors teaching the introductory MBA course must choose between breadth and depth. They can assign most of the chapters in one of the existing textbooks and teach finance as a survey course, going for breadth at the expense of depth. Alternatively, they can cover fewer chapters (and parts of chapters), explore them in depth, and ignore the remaining chapters. We learned from a review of course syllabi that the vast majority of professors, including us, choose the second alternative. Finance majors will probably cover much of the omitted material in later courses, but non-majors end up having to buy a larger, more expensive book than they need. Also, instructors must make difficult choices, including having to decide what parts of selected chapters are most important. Drawing upon our own classroom experience, we wrote *Corporate Finance* for those professors who want to cover the critical finance topics in depth, but who do not want to require their students to purchase chapters that will not be covered.

This book combines theory with practical applications. An understanding of finance theory is essential if people are to develop and implement effective financial strategies, and students also need a good working knowledge of the financial environment. Therefore, the book begins with basic background information and essential concepts, including the economic and financial environment, the time value of money, the relationship between risk and return, and stock and bond valuation. With this background, students can understand the specific techniques, decision rules, and financial policies that are used to help maximize the value of the firm. This structure has two important advantages:

1. The early coverage of risk analysis, discounted cash flow techniques, and valuation permits us to use and reinforce these concepts throughout the book.
2. Students, even those who do not plan to major in finance, are generally interested in stock and bond valuation. Because the ability to learn a subject is a function of interest and motivation, and because *Corporate Finance* covers securities and markets early, the book's organization is sound from a pedagogic standpoint.

Intended Market and Use

Corporate Finance is designed for use in a one-term introductory MBA course. The book can also be used in executive programs and as an undergraduate introductory text with exceptionally good students.

Key Features and Topics

Following are some key features and topics in *Corporate Finance*:

1. **Supplementary Web materials.** Over the years, financial researchers have developed new theories, the financial markets have spawned many new types of securities, consulting firms have developed new ways of thinking about financial practices, computers have facilitated better ways of analyzing decisions, and businesses have become increasingly global. *Corporate Finance* covers critical core topics in depth in the printed text, but we also provide specialized reference material in four-color Adobe PDF files on the textbook's web site. Nine chapters have these "Web Extensions." This blending of a traditional print textbook with e-book-like features provides supplemental materials that instructors may choose to cover. In addition, the Web material gives students an enriched reference library that will be helpful in later courses and in their careers.
2. **Spreadsheet applications.** Proficiency with spreadsheets is an absolute necessity for all MBA students. With this in mind, we created *Excel* spreadsheets, called "Tool Kits," for each chapter to show how the calculations required in the chapter are done with *Excel*. The Tool Kit models include explanations and screen shots that show students how to use many of the features and functions of *Excel*, making the Tool Kits serve as self-taught tutorials on *Excel*.
3. **Web-based sources of data.** Managers today must also know how to access key financial information on the Internet. With this in mind, the text has numerous links and explanations to help readers retrieve useful financial data. Indeed, the book's web site provides detailed "Web Safaris" that can guide readers to key Web-based data sources.
4. **Corporate valuation and corporate governance.** Managers should strive to maximize shareholder value, and this requires a focus on cash flow. Therefore, *Corporate Finance* has a chapter that ties together free cash flow, corporate valuation, value-based management, corporate governance, and incentive compensation.
5. **Streamlined coverage of financial forecasting.** The textbook flows seamlessly from historical statements to ratio analysis and then on to financial forecasting. The printed material in the text provides a simple but robust method for projecting financial statements, future financing requirements, and stock prices, while the Chapter 11 spreadsheet and Web Extension describe more refined forecasting techniques.
6. **Beta calculations.** Chapter 3, which introduces risk, return, and the CAPM, also demonstrates how beta is calculated for an actual company, Wal-Mart. (Betas are discussed in the chapter.) Then, the Tool Kit uses *Excel* to estimate Wal-Mart's beta, and the web site includes two Web Safaris, one that shows how to obtain the returns needed for the calculation and another that shows how to obtain published betas from the Web if you do not want to calculate your own.
7. **Capital budgeting.** Chapter 7 covers basic capital budgeting techniques, with an emphasis on spreadsheet analysis. Chapter 8 covers cash flow estimation and risk

analysis, using spreadsheet features such as data tables for sensitivity analysis and the Scenario Manager for scenario analysis. Chapter 8 also includes a special Tool Kit for simulation analysis, using an *Excel* Add-In graciously provided by Professor Roger Myerson of Northwestern University. If an instructor so chooses, he or she can have students simulate a capital budgeting project without the need for a proprietary software package.

8. **Capital structure.** Chapter 13 blends capital structure theory and applications. Drawing on both the corporate valuation model in Chapter 12 and the Hamada model, the chapter analyzes the effects of changes in the capital structure.
9. **Notation and symbols.** Various notation and symbols are found in the literature. We reviewed the book in a systematic manner and incorporated notation that is most consistent with the modern literature. In particular, we use “*r*” (instead of “*k*”) as the symbol for “returns” throughout the book and its related materials.

The Instructional Package: An Integrated Approach to Learning

Corporate Finance includes a broad array of printed and Web-based ancillary materials designed to enhance students' learning and help instructors prepare for and conduct classes. These ancillaries are included on the Instructor's Resource CD-ROM, the textbook's web site, or both.

1. **Instructor's Manual.** This comprehensive manual contains answers to all text questions and problems, plus detailed solutions to the end-of-chapter Mini Cases. It is available in print form as well as in Microsoft *Word*.
2. **Mini Cases.** Each chapter has a Mini Case that covers all the essential issues presented in the chapters. These can be assigned as regular cases or used in class as the basis for a case-oriented lecture.
3. **PowerPoint Slides.** We developed a set of *PowerPoint* slides that present graphs, tables, lists, and calculations for use in lectures. The slides are actually based on the Mini Cases, but they are self-contained in the sense that they can be used for lectures regardless of whether students are assigned to read the Mini Cases. Copies of these slides are on the Instructor's Resource CD-ROM and the text's web site.
4. **Mini Case Spreadsheets.** In addition to the *PowerPoint* slides, we provide *Excel* spreadsheets that do the calculations required in the Mini Cases. These spreadsheets are similar to the Tool Kit spreadsheets except (a) the numbers in Mini Case models correspond to the Mini Case rather than the chapter examples, and (b) we added some features that make it possible to do what-if analysis on a real-time basis in class. We usually begin our lectures with the *PowerPoint* presentation, but after we have explained a basic concept we “toggle” to the Mini Case *Excel* file and show how the analysis is done in *Excel*.¹ For example, when teaching bond pricing, we begin with the *PowerPoint* show and cover the basic concepts and calculations. Then we toggle to the *Excel* sheet and use a “what-if” graph to show how bond prices change as interest rates and time to maturity vary. More and more students are bringing their laptops to class, and they can follow along, doing the what-if analysis for themselves.

¹ Note: To toggle between two open programs, such as *Excel* and *PowerPoint*, hold the Alt key down and hit the Tab key until you have selected the program you want to show.

5. **Web Safaris.** As noted earlier, we became frustrated with our own searches on the Internet, so we created and put on the book's web site a series of links that keep us from having to reinvent the wheel. Each Web Safari has a specific goal, such as finding the current spreads between Treasury bonds and risky bonds with different ratings. The web site provides a hyperlink to the appropriate web site (<http://www.bondsonline.com> in this example) and shows how to navigate to the desired information. As noted earlier, we usually begin our lecture with the *PowerPoint* presentation, but when we teach in a wired classroom we occasionally “toggle” to a Web Safari and pull up data in real time.
6. **Test Bank.** Although some instructors dislike multiple-choice questions, they do provide a useful means for testing students on certain topics and making sure that students are keeping up with the assignments. If they are used, it is important that the questions be both unambiguous and consistent with the lectures and assigned readings. To meet this need, we developed a *Test Bank* that contains more than 1,200 class-tested questions and problems. It is available both in print and on the Instructor's Resource CD-ROM. Information regarding the topic and degree of difficulty, along with the complete solution for all numerical problems, is provided with each question.

The *Test Bank* is available in three forms: (a) in a printed book, (b) in Microsoft *Word* files, and (c) as a computerized test bank, ExamView, which has many features that make test preparation, scoring, and grade recording easy. ExamView can automatically convert multiple-choice questions and problems into free-response questions, and it can alter the sequence of test questions to make different versions of a given test. The software also makes it easy to add to or edit the existing test items, or to compile a test that covers a specific set of topics. Of course, instructors who don't want to use ExamView can instead cut and paste questions from the *Word* files.
7. **End-of-chapter Spreadsheet Problems.** Most chapters have a “Build a Model” problem, where students start with a spreadsheet that contains financial data plus instructions for solving a particular problem. The model is partially completed, with headings but no formulas, so the student must literally build a model. This structure guides the student through the problem, and it also makes it easy to grade the work, since all students' answers are in the same locations on the spreadsheet. The partial spreadsheets for the “Build a Model” problems are on the textbook's web site, while the completed models are in files on the Instructor's Resource CD-ROM and on an Instructor's portion of the web site.
8. **Cyberproblems.** The text's web site also contains “Cyberproblems,” which require students to go to specific web sites and answer a series of questions. These web site problems will be updated as needed to remain current. Answers are available on the site restricted to registered Instructors.
9. **Instructor's Resource CD-ROM.** This CD contains *Word* files for the *Instructor's Manual* and the *Test Bank*, along with completed *Excel* models for the “Build a Model” problems. Most materials are also available on the web site restricted to registered instructors.
10. **Finance Digital Case Library.** More than 100 cases written by Eugene F. Brigham and Linda Klein are now available via the Web, and new cases are added every year. These cases are in a customized case database that allows instructors to select cases and create their own customized casebooks. Most of the cases have accompanying spreadsheet models that, while not essential for working the case, do reduce number crunching and thus leave more time for students to consider conceptual issues. The models also show students how

computers can be used to make better financial decisions. Cases that we have found particularly useful for the different chapters are listed in the end-of-chapter references.

All of the cases, case solutions, and spreadsheet models can be previewed by professors at the Finance Case web site via <http://ehrhhardt.swcollege.com> with proper access. For professorial access, contact your sales representative.

11. **Technology Supplement.** This ancillary contains tutorials for five commonly used financial calculators and for Microsoft *Excel*, *Lotus 1-2-3*, and *PowerPoint*. The calculator tutorials cover everything a student needs to know about calculators to work the problems in the text. We provide the tutorials for selected calculators as a part of our course pack. The rather large manuals that accompany most calculators intimidate some students, and they find our 12-page, course-specific tutorials far easier to use. The spreadsheet tutorials teach students the basics plus some advanced spreadsheet features, and they prepare students to work with the specific finance models provided in the Tool Kits. Finally, the *PowerPoint* tutorial is useful to students who must make presentations or to instructors who want to make slides for use in their lectures.
12. **Finance NewsWire.** A problem inherent in printed textbooks is keeping them current in a constantly changing world. When an Enron goes bankrupt, or the Nasdaq crashes, it would be useful to relate these events to the textbook. The World Wide Web can help us keep up-to-date. Adopters of *Corporate Finance* will have access to a South-Western web site that provides summaries of recent articles in *The Wall Street Journal*, *Business Week*, and other business publications, along with discussion questions and references to the text. This helps incorporate late-breaking news into classroom discussions. Instructors can also use the accompanying questions for quizzes and/or exams.
13. **Study Guide.** This supplement outlines the key sections of each chapter, and it provides students with a set of questions and problems similar to those in the text and in the *Test Bank*, along with worked-out solutions. Instructors seldom use the *Study Guide* themselves, but students often find it useful, so we recommend that instructors ask their bookstores to have copies available. Our bookstore generally has to reorder it, which attests to its popularity with students.

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Errors in the Text

At this point, authors generally say something like this: “We appreciate all the help we received from the people listed above, but any remaining errors are, of course, our own responsibility.” And in many books, there are plenty of remaining errors. Having experienced difficulties with errors ourselves, both as students and as instructors, we resolved to avoid this problem in *Corporate Finance*. As a result of our error detection procedures, we are convinced that the book is relatively free of mistakes.

Partly because of our confidence that few such errors remain, but primarily because we want to detect any errors in the textbook that may have slipped by so we can correct them in subsequent printings, we decided to offer a reward of \$10 per error to the first person who reports it to us. For purposes of this reward, errors in the textbook are defined as misspelled words, nonrounding numerical errors, incorrect statements, and any other error that inhibits comprehension. Typesetting problems such as irregular spacing and differences in opinion regarding grammatical or punctuation conventions do not qualify for this reward. Also, given the ever-changing nature of the World Wide Web, changes in Web addresses do not qualify as errors, although we would appreciate reports of changed Web addresses. Finally, any qualifying error that has follow-through effects is counted as two errors only. **Please report any errors to Michael C. Ehrhardt at the e-mail address given below.**

Conclusion

Finance is, in a real sense, the cornerstone of the free enterprise system. Good financial management is therefore vitally important to the economic health of business firms, hence to the nation and the world. Because of its importance, corporate finance should be thoroughly understood. However, this is easier said than done—the field is relatively complex, and it is undergoing constant change in response to shifts in economic conditions. All of this makes corporate finance stimulating and exciting, but also challenging and sometimes perplexing. We sincerely hope that *Corporate Finance: A Focused Approach* will help readers understand and solve the financial problems faced by businesses today.

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Brief Contents

Preface *v*

| | | |
|-------------------|---|------------|
| Part One | Building Blocks of Corporate Finance | 1 |
| 1 | An Overview of Corporate Finance and the Financial Environment | 3 |
| 2 | Time Value of Money | 55 |
| | Web Extension | |
| 3 | Risk and Return | 101 |
| | Web Extension | |
| Part Two | Valuing Securities and Projects | 147 |
| 4 | Bonds and Their Valuation | 149 |
| 5 | Stocks and Their Valuation | 187 |
| 6 | The Cost of Capital | 224 |
| | Web Extension | |
| 7 | The Basics of Capital Budgeting: Evaluating Cash Flows | 259 |
| | Web Extension | |
| 8 | Cash Flow Estimation and Risk Analysis | 296 |
| | Web Extension | |
| Part Three | Corporate Valuation | 335 |
| 9 | Financial Statements, Cash Flow, and Taxes | 337 |
| 10 | Analysis of Financial Statements | 375 |
| 11 | Financial Planning and Forecasting Financial Statements | 408 |
| | Web Extension | |
| 12 | Corporate Valuation, Value-Based Management, and Corporate Governance | 438 |
| Part Four | Corporate Financing | 475 |
| 13 | Capital Structure Decisions | 477 |
| | Web Extension | |
| 14 | Distributions to Shareholders: Dividends and Repurchases | 511 |