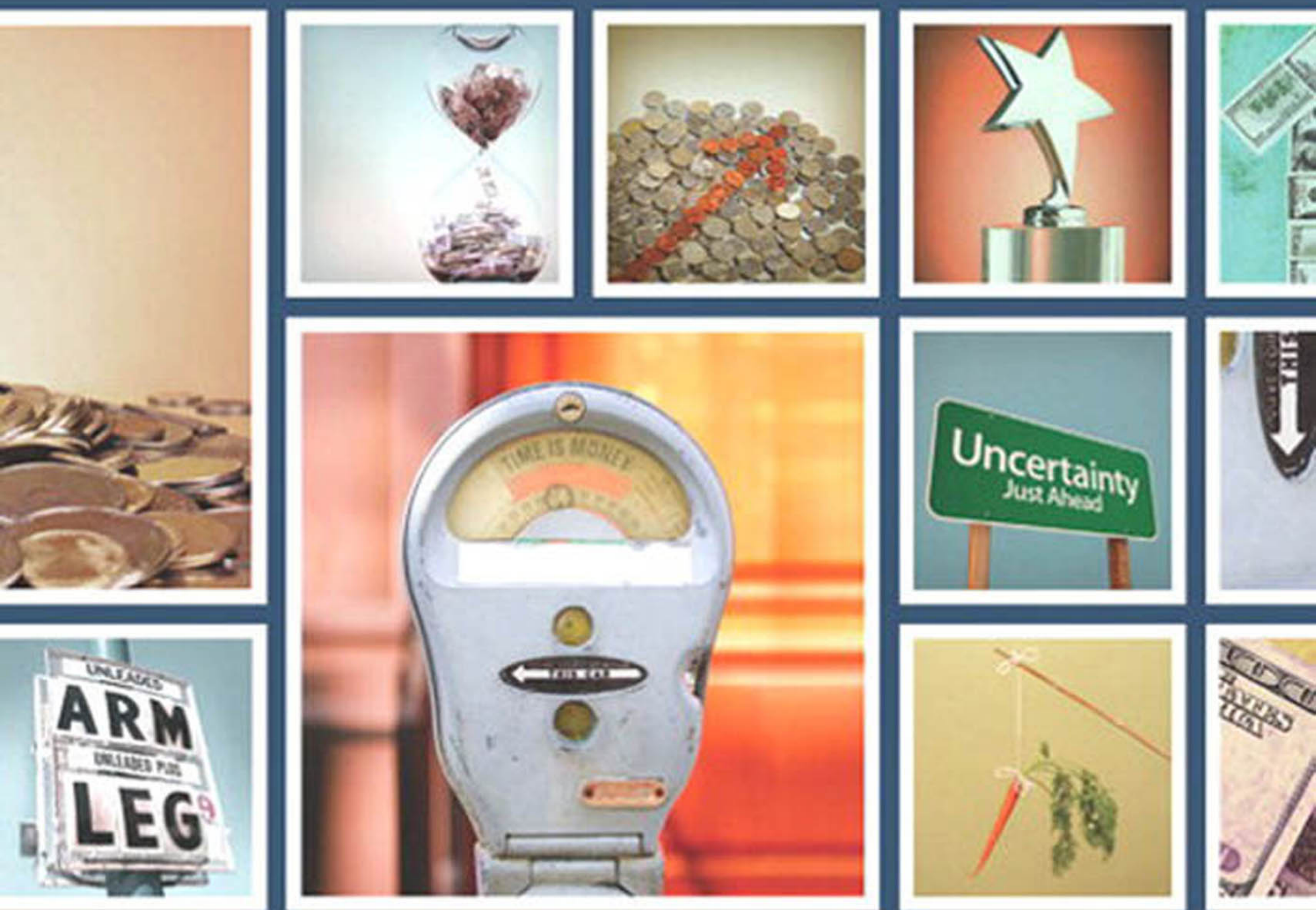
SHERIDAN TITMAN | ARTHUR J. KEOWN | JOHN D. MARTIN

Financial Management

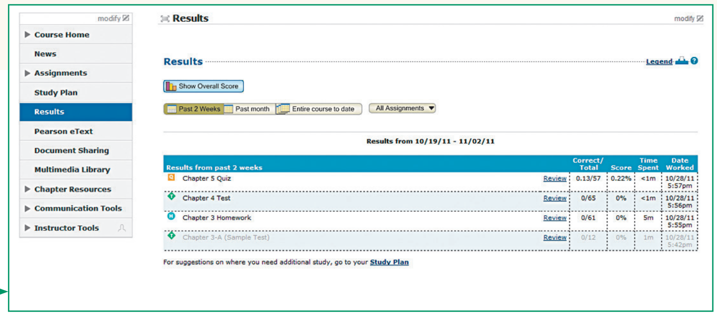
Principles and Applications



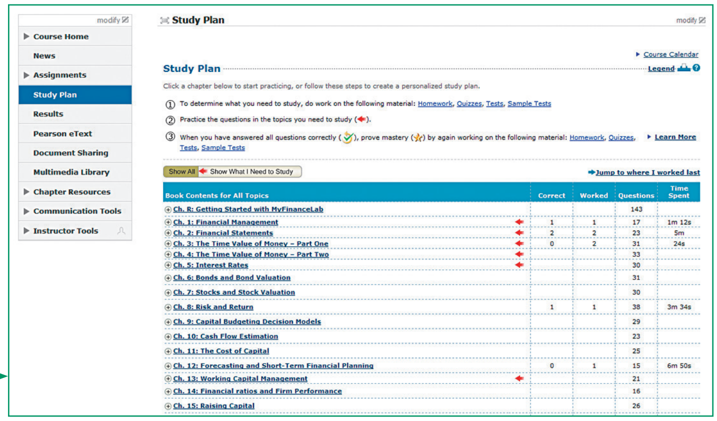
TWELFTH EDITION

MyFinanceLab

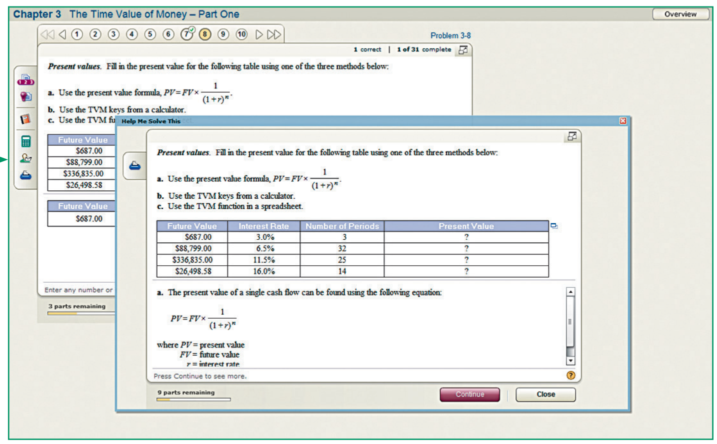
The Key to Your Success in Three Easy Steps!



1. Take a Sample Test to assess your knowledge.

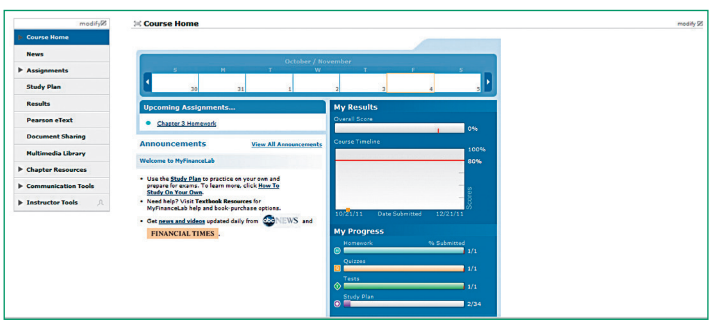


2. Review your personalized Study Plan to see where you need more work.



3. Use the Study Plan exercises and step-by-step tutorials to get practice—and individualized feedback—where you need it.

If your instructor assigns homework and tests using MyFinanceLab



The MyFinanceLab Course Home page uses graphs to let students know their current progress in the course and it has a detailed calendar that not only displays due dates, but allows instructors to add entries.

Did your textbook come with a MyFinanceLab Student Access Kit? If so, go to www.pearsonmylab.com to register using the code. If not, you can purchase access to MyFinanceLab online at www.myfinancelab.com.

The Pearson Series in Finance

Bekaert/Hodrick
International Financial Management

Berk/DeMarzo
*Corporate Finance**

Berk/DeMarzo
*Corporate Finance: The Core**

Berk/DeMarzo/Harford
*Fundamentals of Corporate Finance**

Brooks
*Financial Management: Core Concepts**

Copeland/Weston/Shastri
Financial Theory and Corporate Policy

Dorfman/Cather
Introduction to Risk Management and Insurance

Eiteman/Stonehill/Moffett
Multinational Business Finance

Fabozzi
Bond Markets: Analysis and Strategies

Fabozzi/Modigliani
Capital Markets: Institutions and Instruments

Fabozzi/Modigliani/Jones
Foundations of Financial Markets and Institutions

Finkler
Financial Management for Public, Health, and Not-for-Profit Organizations

Frasca
Personal Finance

Gitman/Joehnk/Smart
*Fundamentals of Investing**

Gitman/Zutter
*Principles of Managerial Finance**

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

Haugen
The Inefficient Stock Market: What Pays Off and Why

Haugen
The New Finance: Overreaction, Complexity, and Uniqueness

Holden
Excel Modeling and Estimation in Corporate Finance

Holden
Excel Modeling and Estimation in Investments

Hughes/MacDonald
International Banking: Text and Cases

Hull
Fundamentals of Futures and Options Markets

Hull
Options, Futures, and Other Derivatives

Keown
*Personal Finance: Turning Money into Wealth**

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

Kim/Nofsinger
Corporate Governance

Madura
*Personal Finance**

Marthinsen
Risk Takers: Uses and Abuses of Financial Derivatives

McDonald
Derivatives Markets

McDonald
Fundamentals of Derivatives Markets

Mishkin/Eakins
Financial Markets and Institutions

Moffett/Stonehill/Eiteman
Fundamentals of Multinational Finance

Nofsinger
Psychology of Investing

Ormiston/Fraser
Understanding Financial Statements

Pennacchi
Theory of Asset Pricing

Rejda
Principles of Risk Management and Insurance

Seiler
Performing Financial Studies: A Methodological Cookbook

Solnik/McLeavey
Global Investments

Stretcher/Michael
Cases in Financial Management

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

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

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

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

Financial Management

Principles and Applications

Twelfth Edition

Financial Management

Principles and Applications

Sheridan Titman
University of Texas at Austin
Walter W. McAllister Centennial Chair in Financial Services

Arthur J. Keown
Virginia Polytechnic Institute and State University
R.B. Pamplin Professor of Finance

John D. Martin
Baylor University
Carr P. Collins Chair in Finance

PEARSON

Boston Columbus Indianapolis New York San Francisco Upper Saddle River
Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto
Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

Editor in Chief: Donna Battista
Acquisitions Editor: Katie Rowland
Editorial Project Manager: Erin McDonagh
Editorial Assistant: Elissa Senra-Sargent
Managing Editor: Jeff Holcomb
Associate Managing Editor: Karen Carter
Senior Operations Specialist: Carol Melville
Art Director, Text Design: Blair Brown
Art Director, Cover Design: Jonathan Boylan
Cover Art: Shutterstock
Media Editor: Melissa Honig
Media Project Manager: Miguel Leonarte
Full-Service Project Management: Diane Kohnen, S4Carlisle Publishing Services
Composition: S4Carlisle Publishing Services
Printer/Binder: Courier/Kendallville
Cover Printer: Lehigh-Phoenix Color/ Hagerstown

Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within text.

Photo Credits
pp. viii top, 3, Dbimages/Alamy; **pp. 4, 40, 192, 330, 482, 602,** Runzelkorn/Shutterstock; **pp. viii bottom, 19,** Crocodile Images/Alamy; **pp. 20, 78, 158, 222, 300, 374, 446, 524, 572, 628,** Yuri Arcurs/Fotolia; **p. 39 bottom,** Djma/Fotolia; **pp. ix top, 39 top,** Alamy; **pp. ix bottom, 77,** 3dfoto/Shutterstock: **pp. x top, 127,** Les Cunliffe/Fotolia; **pp. 128, 254, 410, 550,** Monart Design/Fotolia; **pp. x bottom, 157,** Jokerpr/Fotolia; **pp. xi top, 191,** Pixelbliss/Fotolia; **pp. xi bottom, 221,** Deftrender/Shutterstock; **pp. xii top, 253,** Hudyma Natallia/Shutterstock; **pp. xii bottom, 299,** Flag Illustrations/Alamy; **pp. xiii top, xiv, 329, 409 sign,** Andy Dean Photography/Shutterstock; **pp. xiii bottom, 373,** AstroBoi/Fotolia; **pp. xiv, 409 scales,** Alx/Fotolia; **pp. xiv bottom, 445,** Star Stock/Alamy; **pp. xv, 481,** Subbotina Anna/Shutterstock; **pp. xvi top, 523,** Tomas/Fotolia; **p. xvi middle, 549,** Bertold Werkmann/Shutterstock; **pp. xvi bottom, 571,** Vladru/Shutterstock; **pp. xvii top, 601,** Adam James/Alamy; **pp. xvii, 627,** Gl0ck/Fotolia.

Library of Congress Cataloging-in-Publication Data

Titman, Sheridan.
Financial management : principles and applications / Sheridan Titman, University of Texas at Austin, Walter W. McAllister Centennial Chair in Financial Services, Arthur J. Keown, Virginia Polytechnic Institute and State University, R.B. Pamplin, Professor of Finance, John D. Martin, Baylor University, Carr P. Collins Chair in Finance.—Twelfth Edition.
pages cm
Includes bibliographical references and indexes.
ISBN-13: 978-0-13-342382-2 (hardcover : alk. paper)
ISBN-10: 0-13-342382-4 (hardcover : alk. paper) 1. Business enterprises—Finance. 2. Corporations—Finance. I. Keown, Arthur J. II. Martin, John D. III. Title.
HG4026.T58 2013
658.15—dc23

2013005311

10 9 8 7 6 5 4 3 2 1

PEARSON

ISBN 13: 978-0-13-342382-2
ISBN 10: 0-13-342382-4

The twelfth edition of *Financial Management: Principles and Applications* is dedicated to our families—the ones who love us the most.

To my parents, wife (Meg), and sons (Trevor, Elliot, and Gordon)
Sheridan Titman

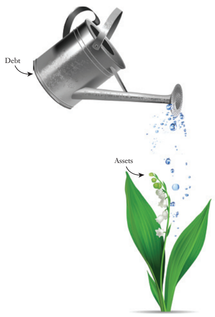
Barb, Emily, and Artie
Arthur J. Keown

To the Martin women (my wife Sally and daughter-in-law Mel), men (sons David and Jess), and boys (grandsons Luke and Burke)
John D. Martin

Brief Contents

Contents


GAP



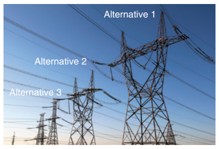
CHAPTER 9

Debt Valuation and Interest Rates 252

CHAPTER 10

Stock Valuation 298

Part 3: Capital Budgeting


Alternative 1
Alternative 2
Alternative 3

Teaching Students the

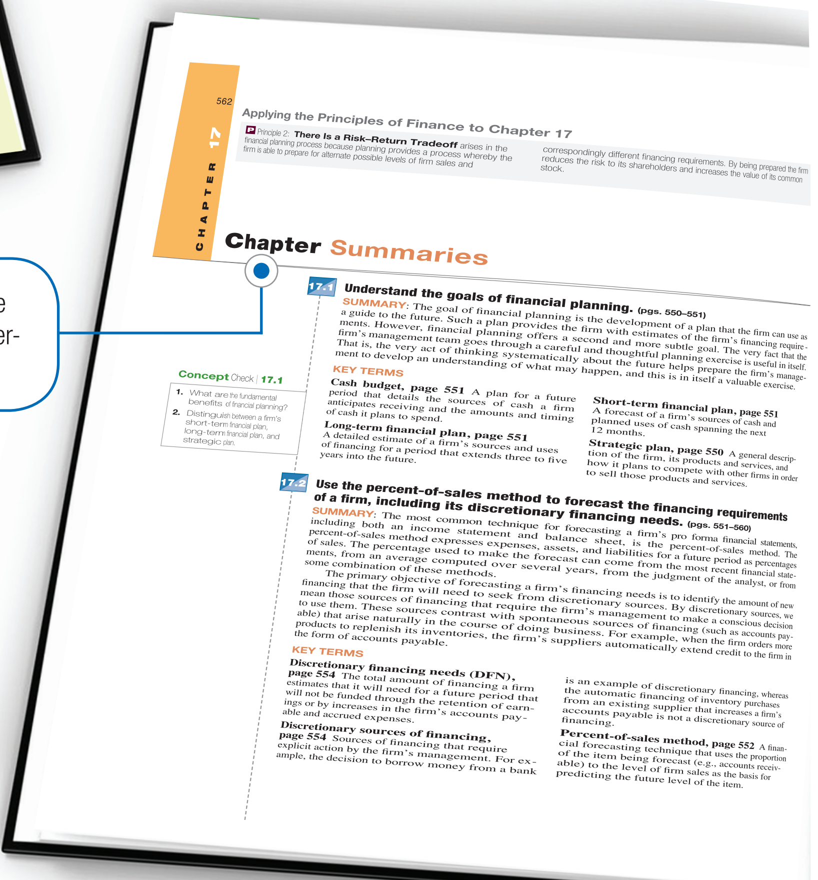
Logic of Finance

The Five Principles of Finance

Many finance books show students only the mechanics of finance problem solving, but students learn better when given the intuition behind complex concepts. Financial Management shows students the reasoning behind financial decisions and connects all topics in the book to five key principles—the **Five Principles of Finance.** P Principle 1, P Principle 2, P Principle 3, P Principle 4, P Principle 5

Each chapter opens with a helpful preview of the **Five Principles** that are illustrated in the coming chapter, so students see the underlying and connecting themes and learn to recognize patterns. Principles are color-coded for quick recognition.

The chapter-opening vignette provides a **real-world example** of the Five Principles applied in the chapter, many times reinforcing the rule by showing how "forgetting" a principle might lead to financial troubles.



Each chapter-concluding **Summary** reviews Five Principles of Finance in context for a deeper understanding and retention of chapter concepts.

Within the chapter, the authors draw on the Five Principles to illustrate concepts and explain the rationale behind financial decision-making. Look for: P, P, P, P, P

- P Principle 1: **Money Has a Time Value**
- P Principle 2: **There Is a Risk-Return Tradeoff**
- P Principle 3: **Cash Flows Are the Source of Value**
- P Principle 4: **Market Prices Reflect Information**
- P Principle 5: **Individuals Respond to Incentives**

Tools for Developing Study Skills

To be successful, finance students need hands-on practice opportunities that help them go beyond rote memorization of formulas to a true understanding of the dynamics of solving finance problems.

CHAPTER 11 | Investment Decision Criteria 335

Checkpoint 11.1

Calculating the NPV for Project Long

Project Long requires an initial investment of $100,000 and is expected to generate a cash flow of $70,000 in Year 1, $30,000 per year in Years 2 and 3, $25,000 in Year 4, and $10,000 in Year 5.

The discount rate (k) appropriate for calculating the NPV of Project Long is 17 percent. Is Project Long a good investment opportunity?

STEP 1: Picture the problem

Project Long requires an initial investment of $100,000 and is expected to produce the following cash flows over the next five years:

STEP 2: Decide on a solution strategy

Our strategy for analyzing whether this is a good investment opportunity involves first calculating the present value of the cash inflows and then comparing them to the amount of money invested, the initial cash outflow, to see if the difference or NPV is positive. The NPV for Project Long is equal to the present value of the project's expected cash flows for Years 1 through 5 minus the initial cash outlay (CF_0). We can use Equation (11–1) to solve this problem. Thus, the first step in the solution is to calculate the present value of the future cash flows by discounting the cash flows using k = 17%. Then, from this quantity we subtract the initial cash outlay of $100,000.

We can calculate this present value using the mathematics of discounted cash flow, a financial calculator, or a spreadsheet. We demonstrate all three methods here.

STEP 3: Solve

Using the Mathematical Formulas.

Using Equation (11–1),

$$NPV = -\$100{,}000 + \frac{\$70{,}000}{(1+.17)^1} + \frac{\$30{,}000}{(1+.17)^2} + \frac{\$30{,}000}{(1+.17)^3} + \frac{\$25{,}000}{(1+.17)^4} + \frac{\$10{,}000}{(1+.17)^5}$$

Solving the equation, we get

$$NPV = -\$100{,}000 + \$59{,}829 + \$21{,}915 + \$18{,}731 + \$13{,}341 + \$4{,}561$$
$$= -\$100{,}000 + \$118{,}378$$
$$NPV = \$18{,}378$$

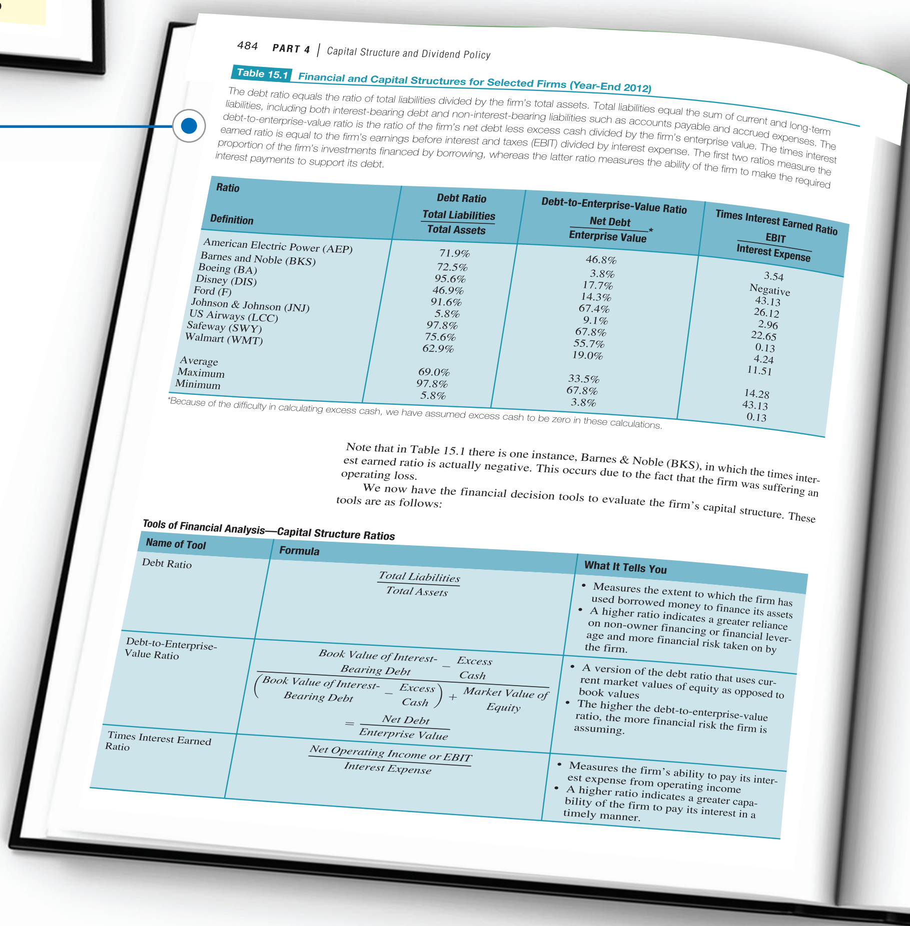
Using a Financial Calculator.

Before using the CF button, make sure you clear your calculator by inputting CF; 2nd; CE/C.

Data and Key Input	Display
CF; –100,000; ENTER	CF0 = –100,000.00
↓; 70,000; ENTER	C01 = 70,000.00
↓; 1; ENTER	F01 = 1.00
↓; 30,000; ENTER	C02 = 30,000.00
↓; 2; ENTER	F02 = 2.00
↓; 25,000; ENTER	C03 = 25,000.00
↓; 1; ENTER	F03 = 1.00
↓; 10,000; ENTER	C04 = 10,000.00
↓; 1; ENTER	F04 = 1.00
NPV; 17; ENTER	I = 17
↓; CPT	NPV = 18,378

(11.1 CONTINUED >> ON NEXT PAGE)

Checkpoints model a consistent problem-solving technique that walks through each problem in 5 steps, including an analysis of the solution reached. Each Checkpoint concludes with an additional practice problem with solution on the same topic so students can test their mastery of the problem-solving approach. Then, students can take their knowledge to the test by completing the linked end-of-chapter problem(s).



484 PART 4 | Capital Structure and Dividend Policy

Table 15.1 Financial and Capital Structures for Selected Firms (Year-End 2012)

The debt ratio equals the ratio of total liabilities divided by the firm's total assets. Total liabilities equal the sum of current and long-term liabilities, including both interest-bearing debt and non-interest-bearing liabilities such as accounts payable and accrued expenses. The debt-to-enterprise-value ratio is the ratio of the firm's net debt less excess cash divided by the firm's enterprise value. The times interest earned ratio is equal to the firm's earnings before interest and taxes (EBIT) divided by interest expense. The first two ratios measure the proportion of the firm's investments financed by borrowing, whereas the latter ratio measures the ability of the firm to make the required interest payments to support its debt.

Ratio / Definition	Debt Ratio: Total Liabilities / Total Assets	Debt-to-Enterprise-Value Ratio: Net Debt / Enterprise Value*	Times Interest Earned Ratio: EBIT / Interest Expense
American Electric Power (AEP)	71.9%	46.8%	3.54
Barnes and Noble (BKS)	72.5%	3.8%	Negative
Boeing (BA)	95.6%	17.7%	43.13
Disney (DIS)	46.9%	14.3%	26.12
Ford (F)	91.6%	67.4%	2.96
Johnson & Johnson (JNJ)	5.8%	9.1%	22.65
US Airways (LCC)	97.8%	67.8%	0.13
Safeway (SWY)	75.6%	55.7%	4.24
Walmart (WMT)	62.9%	19.0%	11.51
Average	69.0%	33.5%	14.28
Maximum	97.8%	67.8%	43.13
Minimum	5.8%	3.8%	0.13

*Because of the difficulty in calculating excess cash, we have assumed excess cash to be zero in these calculations.

Note that in Table 15.1 there is one instance, Barnes & Noble (BKS), in which the times interest earned ratio is actually negative. This occurs due to the fact that the firm was suffering an operating loss.

We now have the financial decision tools to evaluate the firm's capital structure. These tools are as follows:

Tools of Financial Analysis—Capital Structure Ratios

Name of Tool	Formula	What It Tells You
Debt Ratio	$\dfrac{\text{Total Liabilities}}{\text{Total Assets}}$	• Measures the extent to which the firm has used borrowed money to finance its assets. • A higher ratio indicates a greater reliance on non-owner financing or financial leverage and more financial risk taken on by the firm.
Debt-to-Enterprise-Value Ratio	$\dfrac{\text{Book Value of Interest-Bearing Debt} - \text{Excess Cash}}{\left(\text{Book Value of Interest-Bearing Debt} - \text{Excess Cash}\right) + \text{Market Value of Equity}} = \dfrac{\text{Net Debt}}{\text{Enterprise Value}}$	• A version of the debt ratio that uses current market values of equity as opposed to book values. • The higher the debt-to-enterprise-value ratio, the more financial risk the firm is assuming.
Times Interest Earned Ratio	$\dfrac{\text{Net Operating Income or EBIT}}{\text{Interest Expense}}$	• Measures the firm's ability to pay its interest expense from operating income. • A higher ratio indicates a greater capability of the firm to pay its interest in a timely manner.

Tools of Financial Analysis boxes provide the student reader with a quick reference source for the decision tools used in financial analysis. This new box feature appears throughout the book and names each calculation or formula, displays it in equation form, and summarizes what it tells you.

Preface

The twelfth edition of *Financial Management: Principles and Applications* is more than a revision of its predecessor. Sheridan Titman was added to the previous edition author team, and with his energy and insight leading the way, the entire book was rewritten from the ground up, incorporating insights from recent academic research as well as noteworthy events, while retaining the student focus of prior editions. In this edition, we refined our approach further, making a number of pedagogical improvements that should make the material much more engaging to the undergraduate student.

Our Approach to Financial Management

The first-time student of finance will find that corporate finance builds upon both economics and accounting. Economics provides much of the theory that underlies our techniques, whereas accounting provides the input or data on which decision making is based. Unfortunately, it is all too easy for students to lose sight of the logic that drives finance and to focus instead on memorizing formulas and procedures. As a result, students have a difficult time understanding the relationships among the topics covered. Moreover, later in life when the problems encountered do not fit neatly into the textbook presentation, the student may have problems abstracting from what was learned. To overcome this problem, the opening chapter presents five basic principles of finance that are woven throughout the book. What results is a text tightly bound around these guiding principles. In essence, the student is presented with a cohesive, interrelated subject from which future, as yet unknown, problems can be approached.

Teaching an introductory finance class while faced with an ever-expanding discipline puts additional pressures on the instructor. What to cover, what to omit, and how to make these decisions while maintaining a cohesive presentation are inescapable questions. In dealing with these questions, we have attempted to present the chapters in a stand-alone fashion so that they can easily be rearranged to fit almost any desired course structure and course length. Because the principles are woven into every chapter, the presentation of the text remains tight regardless of whether or not the chapters are rearranged. Again, our goal is to provide an enduring understanding of the basic tools and fundamental principles upon which finance is based. This foundation will give a student beginning his or her studies in finance a strong base on which to build future studies and it will give the student who takes only one finance class a lasting understanding of the basics of finance.

Although historical circumstances continue to serve as the driving force behind the development and practice of finance, the underlying principles that guide our discipline remain the same. These principles are presented in an intuitively appealing manner in Chapter 1 and thereafter are tied to all that follows. With a focus upon the big picture, we provide an introduction to financial decision making rooted in current financial theory and the current state of world economic conditions. This focus can be seen in a number of ways, perhaps the most obvious being the attention paid both to valuation and to the capital markets, as well as their influence on corporate financial decisions. What results is an introductory treatment of a discipline rather than the treatment of a series of isolated finance problems. The goal of this text is to go beyond teaching the tools of a discipline or a trade and help students gain a complete understanding of the subject. This will give them the ability to apply what they have learned to new and yet unforeseen problems—in short, to educate students in finance.

A Total Learning Package

Financial Management is not simply another introductory finance text. It is a total learning package that reflects the vitality of an ever-expanding discipline. Specifically, the twelfth edition of *Financial Management: Principles and Applications* was revised to include features with benefits designed to address seven key criteria:

Challenge	Solution
1. Finance books often show the mechanics of finance but do not present the intuition.	• The twelfth edition utilizes five key principles to help students understand financial management so that they can focus on the intuition behind the mechanics of solving problems.
2. Students learn best when they are actively engaged.	• A five-step problem-solving technique is used in fully worked-out examples called Checkpoints. These Checkpoints give students an opportunity to pause and test their comprehension of the key quantitative concepts as they are presented. The fifth step is a worked example, followed by a practice problem ("Check Yourself") for students to try out a similar problem on their own.
3. Student understanding and motivation are improved when concepts are applied to topics that have relevance to their lives.	• The feature box "The Business of Life" links important finance concepts to personal finance matters of high interest to students. • The feature box "Regardless of Your Major" brings in examples from other majors in the business school so that students can see the applicability of finance topics to their own chosen professions. • The feature box "Finance in a Flat World" highlights international examples of corporate finance concepts. • End-of-chapter questions are linked to these feature boxes to ensure that students have the opportunity to actively engage with the ideas presented.
4. An undergraduate textbook should provide meaningful pedagogical aids to ensure student comprehension and retention.	• "Tools of Financial Analysis" boxes are provided throughout the text that "Name the Tool," provide the "Formula," and then tell the student "What It Tells You." • Each pedagogical feature in the chapter has significance and relevance to the chapter topics, and students are held accountable for the information therein. • Designated end-of-chapter problems key off the examples used in the chapter-opening vignettes and in the in-chapter feature boxes. • Company scenarios used in chapter-opening vignettes are woven into the chapter body itself. • The end-of-chapter problems are labeled by the major chapter section heads to guide students to the relevant chapter content.
5. Students often struggle with the mathematical rigor of this course and need an accessible presentation of the mathematics.	• The use of "Tools of Financial Analysis" boxes provides the student with a clearly stated description of what the equation or formula tells us. • We minimize the use of formulas when we can spell things out in plain English. • We use a 5-step procedure in our problem examples (called Checkpoints) that begins by visualizing the problem graphically, describes a solution methodology, lays out all the necessary steps in the solution, and then interprets the solution by analyzing the underlying content of the problem situation. • Financial management is a problem-solving course, so we provide lots of worked-out examples and have sorted the end-of-chapter materials by major chapter section to guide the student to the relevant segment of the chapter. • Figures are enhanced with notes and "talking boxes" that step students through the graphs and highlight key points.
6. Professors find assigning and grading homework too time-consuming.	• MyFinanceLab handles the grading. • MyFinanceLab allows instructors to create and assign tests, quizzes, or graded assignments with ease.
7. Students often miss the big picture, viewing finance as a presentation of several loosely connected topics.	• The opening chapter presents five underlying principles of finance that serve as a springboard for the chapters and topics that follow. In essence, the student is presented with a cohesive, interrelated perspective from which future problems can be approached. • The core of finance involves trying to assess the valuation consequences of business decisions in a wide variety of situations. Unfortunately, students often become so enmeshed in the details of a business problem that they have difficulty identifying the valuation consequences of its choices. To give students a guide for their analysis, we use five guiding principles that underlie the valuation of any investment. • With a focus on the big picture, we provide an introduction to financial decision making rooted in current financial theory and in the current state of world economic conditions. What results is an introductory treatment of a discipline rather than the treatment of a series of isolated problems that face the financial manager. The goal of this text is not merely to teach the tools of a discipline or trade but also to enable students to abstract what is learned to new and yet unforeseen problems—in short, to educate the student in finance.

Learning Aids In the Text

Updated and Expanded An Organizational Framework: The Five Principles of Finance In this edition, we have added a fifth principle, Principle 5: Individuals Respond to Incentives, to our original four basic principles: Money Has a Time Value; There Is a Risk-Return Tradeoff; Cash Flows Are the Source of Value; and Market Prices Reflect Information. Together, these five principles represent the economic theory that makes up the foundation of financial decision making and are woven throughout the chapters of the book, providing the basis for focusing the reader on understanding the economic intuition rather than just the mechanics of solving problems. They are integrated throughout the text in the following ways:

- Introduced in Chapter 1 using examples that students can relate to personally.
- Revisited in the chapter openers with reference to their application to each chapter's content.
- Specific reference is made throughout the text where the principles come to bear on the discussion.

A Focus on Valuation

Although many professors and instructors make valuation the central theme of their course, students often lose sight of this focus when reading their text. We have revised this edition to reinforce this focus in the content and organization of our text in some very concrete ways:

- First, as we mentioned earlier, we build our discussion around five finance principles that provide the foundation for the valuation of any investment.
- Second, new topics are introduced in the context of "what is the value proposition?" and "how is the value of the enterprise affected?"

NEW! A Fifth Principle of Finance has been added: Principle 5: Individuals Respond to Incentives This principle looks at the power of incentives and the conflict of interest between the firm's managers and its stockholders. This principle appears repeatedly throughout the book, bringing the student's attention back to this problem and how it can be solved.

NEW! *Tools of Financial Analysis* A new box feature has been introduced that provides the student reader with a quick reference source for the decision tools used in financial analysis. This new box feature appears throughout the book and names each calculation or formula, displays it in equation form, and summarizes what it tells you.

NEW! Expanded coverage of the ongoing world financial crisis Chapter 2 provides extensive coverage of the financial crisis that began in 2007, its causes, and where we stand today, linking this discussion to the Principles of Finance.

NEW! Expanded problem set Focusing on chapters with high problem usage, the problem sets have been strategically expanded to provide better problem choices by the professor. As in the previous edition, all problem sets are organized by chapter section so that both the instructor and student can readily align text and problem materials.

NEW! Expanded coverage of interest rates and the yield curve Chapter 9 now contains a new section, "The Shape of the Yield Curve," to help the student better understand how the yield curve is impacted by the inflation premium and maturity-risk premium during times of increasing and decreasing inflation. Much of this discussion is provided using a graphical approach.

NEW! Greatly expanded coverage of investment banking The role and functions of the investment banker are now presented in a much more complete manner, providing the student with an understanding of the role the investment banker plays in the fund-raising process.

NEW! Expanded use of real-world examples We provide ticker symbols in parentheses following the names of real companies throughout the text. This makes it possible for students to easily identify when the example deals with an actual company.

A Multi-Step Approach to Problem-Solving and Analysis As anyone who has taught the core undergraduate finance course knows, there is a wide range in students' math comprehension and skill. Students who do not have the math skills needed to master the subject end up memorizing formulas rather than focusing on the analysis of business decisions using math as a tool. We address this problem both in terms of text content and pedagogy.

- First, we present math only as a tool to help us analyze problems, and only when necessary. We do not present math for its own sake.
- Second, finance is an analytical subject and requires that students be able to solve problems. To help with this process, numbered chapter examples called "Checkpoints" appear throughout the book. Each of these examples follows a very detailed and multi-step approach to problem solving that helps students develop their own problem-solving skills.

1. **Step 1: Picture the problem.** For example, if the problem involves a cash flow, we will first sketch the timeline. This step also entails writing down everything you know about the problem, which includes any relationships such as what fraction of the cash flow is distributed to each of the parties involved and when it is to be received or paid.
2. **Step 2: Decide on a solution strategy.** For example, what is the appropriate formula to apply? How can a calculator or spreadsheet be used to "crunch the numbers"?
3. **Step 3: Solve.** Here we provide a completely worked out step-by-step solution. We first present a description of the solution in prose and then a corresponding mathematical implementation.
4. **Step 4: Analyze.** We end each solution with an analysis of what the solution means. This emphasizes the point that problem solving is about analysis and decision making. Moreover, at this step we emphasize the fact that decisions are often based on incomplete information, which requires the exercise of managerial judgment, a fact of life that is often learned on the job.
5. **Step 5: Check yourself.** Immediately following the presentation of each new problem type we include a practice problem that gives the student the opportunity to practice the type of calculation used in the example.

Content-Enriched Tables and Figures Students today are visual learners. They are used to scanning Internet sites to learn at a glance without the need to ferret out the meaning of a printed page. Rather than see this as a negative, we think, instead, students (and we) are all the beneficiaries of a media revolution that allows us to learn quickly and easily using graphic design and interactive software. Textbooks have been slow to respond to this new way of absorbing information. In this text, the key elements of each chapter in the book can quite literally be gleaned (reviewed) from the chapter tables, figures, and examples. This means that all tables and figures are "content enriched." They are captioned, labeled in detail, and carefully linked so as to make them useful as a stand-alone tool for reviewing the chapter content.

Business of Life boxes apply the chapter concepts to personal financial problems that students encounter in their daily lives.

Finance in a Flat World boxes demonstrate how the chapter content applies to international business.

Figures include floating call-outs with descriptive annotations designed to highlight key points in the figures and facilitate student learning.

Figure and Table captions: Figures and tables have detailed captions describing the objective of the figure or table and necessary background information so that its content can be easily understood. This allows students to review the chapter content by scanning the figures and tables directly.

Equations are written out in plain English with minimal use of acronyms and abbreviations.

Finance spreadsheets and calculators The use of financial spreadsheets and calculators has been integrated throughout the text. Thus students have access to both methods of problem solving. An appendix is provided which guides students through the use of both the HP and TI financial calculators. Excel files are available for worked-out examples and end-of-chapter solutions.

Chapter summaries have been rewritten and are organized around the chapter objectives.

Study Questions: Review questions on the main concepts in the chapter are listed in the order in which the materials were discussed in the chapter for easy student reference.

New to This Edition

Content Updating

In response to the continued development of financial thought, reviewer comments, and the recent economic crisis, changes have been made in the text. The following list highlights some of the important changes that were made in each of the book's 20 chapters:

Chapter 1

GETTING STARTED—PRINCIPLES OF FINANCE

- Introduced a new principle, "Principle 5: Individuals Respond to Incentives."
- Revised discussion of the original five principles increasing the currency of the discussion.
- Updated and revised to make it as intuitive as possible.
- A new section on "Ethical Considerations in Finance."
- In addition, new examples were added.

Chapter 2

FIRMS AND THE FINANCIAL MARKET

- This chapter was significantly revised to reflect the recent changes in the financial markets.
- A new section, "Financial Markets and the Financial Crisis," was added.
- The discussion of securities markets was revised to reflect the recent technological advances coupled with deregulation and increased competition, which have blurred the difference between an organized exchange and the over-the-counter market.

Chapter 3

UNDERSTANDING FINANCIAL STATEMENTS, TAXES, AND CASH FLOWS

- Added a discussion of the role of independent outside audits of a firm's financial statements to address principal–agent problems related to new Principle 5 (Individuals respond to incentives).
- All examples are updated to reflect changes in the tax code.
- The concept of "quality of firm earnings" is added to the discussion of firm earnings and cash flow.
- Two new problems added to the end-of-chapter study problem set.

Chapter 4

EVALUATING A FIRM'S FINANCIAL PERFORMANCE

- Updated Checkpoint examples to reflect current financial statements of example companies.
- In this chapter the Tools of Financial Analysis feature is used to summarize each type of financial ratio and serve as a single point of reference for students when reviewing the material.

Chapter 5

THE TIME VALUE OF MONEY—THE BASICS

- This chapter was revised with an eye toward making it more accessible to math-phobic students.
- The problem set was expanded with emphasis on time value of money problems with a complex stream of cash flows.

Chapter 6

THE TIME VALUE OF MONEY—ANNUITIES AND OTHER TOPICS

- New study problems have been added to the chapter.

Chapter 7

AN INTRODUCTION TO RISK AND RETURN

- Updated all tables and figures on the rates of returns that investors have earned over the long term for different types of security investments.
- Revised discussion of the geometric and arithmetic means to make the importance of the type of mean used in our analysis of historical returns more transparent.
- End-of-chapter Mini-Case revised.

Chapter 8

RISK AND RETURN—CAPITAL MARKET THEORY

- Revised discussion of beta and its estimation from historical return data. The example company used for this discussion is now Home Depot (HD).
- The capital asset pricing model is now presented in a Tools of Financial Analysis box feature which provides the student reader with a quick reference source for this critical tool.
- Portfolio mean-variance and portfolio beta "Tools of Financial Analysis" inserts display and explain relevant formulas.

Chapter 9

DEBT VALUATION AND INTEREST RATES

- A major discussion of the role and functions of the investment banker was added to the section on borrowing money in the public financial market.
- A new section on "The Shape of the Yield Curve" was added to help the student better understand how the yield curve is impacted by the inflation premium and maturity-risk premium during times of increasing and decreasing inflation.
- Bond valuation is now also presented in a Tools of Financial Analysis box, providing the student reader with a quick reference source for the calculation of bond value with annual and semi-annual interest payments along with calculation of the expected yield to maturity. The section titled "Determinants of Interest Rates" went through a major re-write and expansion.
- Updates of Figures 9.4 and 9.5.