



International  
Edition

# Foundations of Finance

Seventh Edition

Keown • Martin • Petty

PEARSON



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*To my parents, from whom I learned the most.*

Arthur J. Keown

*To the Martin women—wife Sally and daughter-in-law Mel,  
the Martin men—sons Dave and Jess, and  
Martin boys—grandsons Luke and Burke.*

John D. Martin

*To my grandchildren, Mackenzie Kate, Ashley Kate,  
Cameron Petty, John Carter, and Erin Marie, who bless  
me every day and make my life so much fun.*

J. William Petty

# About the Authors

**Arthur J. Keown** is the R. B. Pamplin Professor of Finance at Virginia Polytechnic Institute and State University. He received his bachelor's degree from Ohio Wesleyan University, his M.B.A. from the University of Michigan, and his doctorate from Indiana University. An award-winning teacher, he is a member of the Academy of Teaching Excellence; has received five Certificates of Teaching Excellence at Virginia Tech, the W. E. Wine Award for Teaching Excellence, and the Alumni Teaching Excellence Award; and in 1999 received the Outstanding Faculty Award from the State of Virginia. Professor Keown is widely published in academic journals. His work has appeared in *The Journal of Finance*, the *Journal of Financial Economics*, the *Journal of Financial and Quantitative Analysis*, *The Journal of Financial Research*, the *Journal of Banking and Finance*, *Financial Management*, the *Journal of Portfolio Management*, and many others. In addition to *Foundations of Finance*, two other of his books are widely used in college finance classes all over the country—*Basic Financial Management* and *Personal Finance: Turning Money into Wealth*. Professor Keown is a Fellow of the Decision Sciences Institute, a member of the Board of Directors of the Financial Management Association, and former head of the finance department at Virginia Tech. In addition, he recently served as the co-editor of *The Journal of Financial Research* for six and a half years and as the co-editor of the Financial Management Association's *Survey and Synthesis* series for six years. He lives with his wife and two children in Blacksburg, Virginia, where he collects original art from *Mad Magazine*.

**John D. Martin** is Professor of Finance and the holder of the Carr P. Collins Chair of Finance at Baylor University. Dr. Martin came to Baylor University in 1998 from the University of Texas at Austin where he taught for nineteen years and was the Margaret and Eugene McDermott Centennial Professor of Finance. He teaches corporate finance and his research interests are in corporate governance, the evaluation of firm performance, and the design of incentive compensation plans. Dr. Martin has published widely in academic journals including the *Journal of Financial Economics*, *The Journal of Finance*, *Journal of Monetary Economics*, *Journal of Financial and Quantitative Analysis*, *Journal of Corporate Finance*, *Financial Management*, and *Management Science*. His work has also appeared in a number of professional publications including *Directors and Boards*, the *Financial Analysts' Journal*, the *Journal of Portfolio Management*, and the *Journal of Applied Corporate Finance*. In addition to this book Dr. Martin is co-author of nine books including *Financial Management* (9th ed., Prentice Hall), *The Theory of Finance* (Dryden Press), *Financial Analysis* (2nd ed., McGraw Hill), and *Value Based Management* (Harvard Business School Press), and he is currently writing a book on interest rate modeling. He serves on the editorial boards of eight journals and has delivered executive education programs for a number of firms including Shell Chemical, Shell E&P, Texas Instruments, and The Associates.

**J. William Petty, PhD**, University of Texas at Austin, is Professor of Finance and W. W. Caruth Chair of Entrepreneurship. Dr. Petty teaches entrepreneurial finance, both at the undergraduate and graduate levels. He is a University Master Teacher. In 2008, the Acton Foundation for Entrepreneurship Excellence selected him as the National Entrepreneurship Teacher of the Year. His research interests include the financing of entrepreneurial firms and shareholder value-based management. He has served as the co-editor for the *Journal of Financial Research* and the editor of the *Journal of Entrepreneurial Finance*. He has published articles in various academic and professional

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# Preface

The study of finance focuses on making decisions that enhance the value of the firm. This is done by providing customers with the best products and services in a cost-effective way. In a sense we, the authors of *Foundations of Finance*, are trying to do the same thing. That is, we have tried to present the study of financial management in a way that makes your study as easy and productive as possible by using a step-by-step approach to walking you through each new concept or problem.

We are very proud of the history of this volume as it was the first “shortened book” of financial management when it was published in its first edition. The book broke new ground by reducing the number of chapters down to the foundational materials and by trying to present the subject in understandable terms. We continue our quest for readability with the Seventh Edition.

## Pedagogy That Works

This book provides students with a conceptual understanding of the financial decision-making process, rather than just an introduction to the tools and techniques of finance. For the student, it is all too easy to lose sight of the logic that drives finance and focus instead on memorizing formulas and procedures. As a result, students have a difficult time understanding the interrelationships among the topics covered. Moreover, later in life when the problems encountered do not match the textbook presentation, students may find themselves unprepared to abstract from what they learned. To overcome this problem, the opening chapter presents 5 underlying principles of finance, which serve as a springboard for the chapters and topics that follow. In essence, the student is presented with a cohesive, inter-related perspective from which future problems can be approached.

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. This focus is perhaps most apparent in the attention given to the capital markets and their influence on corporate financial decisions. 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.



Understand the five basic principles of finance and business, the consequences of forgetting those basic principles of finance, and the importance of ethics and trust in business.

### Five Principles that Form the Foundations of Finance

To the first-time student of finance, the subject matter may seem like a collection of unrelated decision rules. This could not be further from the truth. In fact, our decision rules, and the logic that underlies them, spring from five simple principles that do not require knowledge of finance to understand. These five principles guide the financial manager in the creation of value for the firm's owners (the stockholders).

As you will see, while it is not necessary to understand finance to understand these principles, it is necessary to understand these principles in order to understand finance. Although these principles may at first appear simple or even trivial, they provide the driving force behind all that follows, weaving together the concepts and techniques presented in this text, and thereby allowing us to focus on the logic underlying the practice of financial management. Now let's introduce the five principles.



#### Principle 1: Cash Flow Is What Matters

You probably recall from your accounting classes that a company's profits can differ dramatically from its cash flows which we will review in Chapter 3. But for now understand that cash flows, not profits, represent money that can be spent. Consequently, it is cash flow, not profits that determines the value of a business. For this reason when we analyze the consequences of a managerial decision we focus on the resulting cash flows, not profits.

In the movie industry, there is a big difference between accounting profits and cash flow.

## Innovations and Distinctive Features in the Seventh Edition

### “Cautionary Tale” Boxes

These give students insights into how the core concepts of finance apply in the real world. Each “Cautionary Tale” box goes behind the headlines of finance pitfalls in the news to show how one of the Five Principles was forgotten or violated.

Real-World Opening Vignettes

Each chapter begins with a story about a current, real-world company faced with a financial decision related to the chapter material that follows. These vignettes have been carefully prepared to stimulate student interest in the topic to come and can be used as a lecture tool to provoke class discussion.

New and Improved Problem Sets

The end-of-chapter study problem sets have been improved and expanded to allow for a wider range of student problems.

Use of an Integrated Learning System

The text is organized around the learning objectives that appear at the beginning of each chapter to provide the instructor and student with an easy-to-use integrated learning system. Numbered icons identifying each objective appear next to the related material throughout the text and in the summary, allowing easy location of material related to each objective.

“Can You Do It?” and “Did You Get It?”

The text provides examples for the students to work at the conclusion of each major section of a chapter, which we call, “Can You Do It?” followed by “Did You Get It?” several pages later in the text. This tool provides an essential ingredient to the building-block approach to the material that we use.

CAN YOU DO IT?  
SOLVING FOR THE REAL RATE OF INTEREST

Your banker just called and offered you the chance to invest your savings for 1 year at a quoted rate of 10 percent. You also saw on the news that the inflation rate is 6 percent. What is the real rate of interest you would be earning if you made the investment? (The solution can be found on page 38.)

DID YOU GET IT?  
SOLVING FOR THE REAL RATE OF INTEREST

Nominal or quoted  
rate of interest

=

real rate of  
interest

+

inflation  
rate

+

product of the real rate of  
interest and the inflation rate

0.10

=

(real rate of  
interest)

+

0.06

+

0.06 × real rate of interest

0.04

=

1.06 × (real rate  
of interest)

Solving for the real rate of interest :

(real rate of interest) =

0.0377

=

3.77%

Concept Check

At the end of most major sections, this tool highlights the key ideas just presented and allows students to test their understanding of the material.

Concept Check

1. According to Principle 3, how do investors decide where to invest their money?
2. What is an efficient market?
3. What is the a
4. Why are ethi

Integrated Examples

These provide students with real-world examples to help them apply the concepts presented in each chapter.

EXAMPLE 4.1

Firms A and B are identical in size. Both have \$1,000 in total assets, and both have an operating return on assets of 14 percent. However, they are different in one respect: Firm A uses all equity and no debt financing; Firm B finances 60 percent of its investments with debt and 40 percent with equity. (For the sake of simplicity, we will assume that both firms pay interest at an interest cost of 6 percent, and there are no income taxes.) The financial statements for the two companies would be as follows:

	FIRM A	FIRM B
<b>BALANCE SHEET</b>		
Total assets	\$1,000	\$1,000
Debt (6% interest rate)	\$ 0	\$ 600
Equity	1,000	400
Total debt and equity	1,000	1,000
<b>INCOME STATEMENT</b>		
Operating income (OROA = 14%)	\$ 140	\$ 140
Interest expense (6%)	( 0)	( 36)
Net income	\$ 140	\$ 104



## Extensive Coverage of Ethics

Ethics is covered as a core principle and “Ethics in Financial Management” boxes appear throughout. These show students that ethical behavior is doing the right thing and that ethical dilemmas are everywhere in finance.

## Remember Your Principles

These in-text inserts appear throughout to allow the student to take time out and reflect on the meaning of the material just presented. The use of these inserts, coupled with the use of the 5 principles, keeps the student focused on the interrelationships and motivating factors behind the concepts.

### ETHICS IN FINANCIAL MANAGEMENT

#### THE WALL STREET JOURNAL WORKPLACE-ETHICS QUIZ

Without question, when you enter the workforce you will be faced with a number of ethical dilemmas that you have never considered. The spread of technology into the workplace has raised a variety of new ethical questions, and many old ones still linger. The following is a quiz dealing with ethical questions that will both give you some questions to think about, and also allow you to compare your answers with those of other Americans surveyed.

##### Office Technology

1. Is it wrong to use company email for personal reasons?  
Yes No
2. Is it wrong to play computer games on office equipment during the workday?  
Yes No
3. Is it unethical to blame an error you made on a technological glitch?  
Yes No

##### Gifts and Entertainment

4. Is a \$50 gift to a boss unacceptable?  
Yes No

8. Can you accept a \$75 prize won at a raffle at a supplier's conference?  
Yes No

##### Truth and Lies

9. Due to on-the-job pressure, have you ever abused or lied about sick days?  
Yes No
10. Due to on-the-job pressure, have you ever taken credit for someone else's work or idea?  
Yes No

Sources: Ethics Officer Association, Belmont, Mass.; Ethical Leadership Group, Wilmette, Ill.; surveys sampled a cross-section of workers at large companies and nationwide

##### Ethics Quiz Answers

1. 34% said personal email on company computers is wrong
2. 49% said playing computer games at work is wrong
3. 61% said it's unethical to blame your error on technology
4. 35% said a \$50 gift to the boss is unacceptable
5. 12% said a \$50 gift from the boss is unacceptable
6. 70% said it's unacceptable to take the \$200 football tickets
7. 35% said it's unacceptable to take the \$100 food basket
8. 40% said it's unacceptable to take the \$75 raffle prize
9. 11% reported they lie about sick days
10. 4% reported they take credit for the work or ideas of others

Source: The Wall Street Journal, October 21, 1999, page B1 (Copyright © 1999, Dow Jones & Company, Inc.) All Rights Reserved.

### REMEMBER YOUR PRINCIPLES

**Principle** In this chapter, we cover material that introduces the financial manager to the process involved in raising funds in the nation's capital markets and how interest rates in those markets are determined.

Without question the United States has a highly developed, complex, and competitive system of financial markets that allows for the quick transfer of savings from people and organizations with a surplus of savings to those with a savings deficit. Such a system of highly developed financial markets allows great ideas (such as the personal computer) to be financed and increases the overall wealth of the economy. Consider your wealth, for example, compared to that of the average family in Russia. Russia lacks the complex system of financial markets to facilitate securities transactions. As a result, real capital formation there has suffered.

Thus, we return now to **Principle 4: Market Prices Are Generally Right**. Financial managers like the U.S. system of capital markets because they trust it. This trust stems from the fact that the markets are efficient, and so prices quickly and accurately reflect all available information about the value of the underlying securities. This means that the expected risks and expected cash flows matter more to market participants than do simpler things such as accounting changes and the sequence of past price changes in a specific security. With security prices and returns (such as interest rates) competitively determined, more financial managers (rather than fewer) participate in the markets and help ensure the basic concept of efficiency.

### Mini Case

The final stage in the interview process for an assistant financial analyst at Caledonia Products involves a test of your understanding of basic financial concepts. You are given the following memorandum and asked to respond to the questions. Whether you are offered a position at Caledonia will depend on the accuracy of your response.

To: Applicants for the position of Financial Analyst

From: Mr. V. Morrison, CEO, Caledonia Products

Re: A test of your understanding of basic financial concepts and of the corporate tax code

Please respond to the following questions:

- a. What is the appropriate goal for the firm and why?
- b. What does the risk-return trade-off mean?
- c. Why are we interested in cash flows rather than accounting profits in determining the value of an asset?
- d. What is an efficient market and what are the implications of efficient markets for us?
- e. What is the cause of the agency problem and how do we try to solve it?
- f. What do ethics and ethical behavior have to do with finance?
- g. Define (1) sole proprietorship, (2) partnership, and (3) corporation.

#### CALCULATOR SOLUTION

Data Input	Function Key
10	<b>N</b>
6	<b>I/Y</b>
-500	<b>FV</b>
0	<b>PMT</b>
Function Key	Answer
<b>CPT</b>	
<b>PV</b>	279.20

## Comprehensive End-of-Chapter Problems

A comprehensive Mini Case appears at the end of almost every chapter, covering all the major topics included in that chapter. This Mini Case can be used as a lecture or review tool by the professor. For the students, it provides an opportunity to apply all the concepts presented within the chapter in a realistic setting, thereby strengthening their understanding of the material.

## Financial Calculators

The use of financial calculators has been integrated throughout this text, especially with respect to the presentation of the time value of money. Where appropriate, calculator solutions appear in the margin.



## Content Updates

In response to both the continued development of financial thought and reviewer comments, changes have been made in the text. Some of these changes include:

### Chapter 1

#### An Introduction to the Foundations of Financial Management

- Updated and revised to make it as intuitive as possible.
- The principles that form the Foundations of Finance were simplified and consolidated from 10 principles down to 5 principles. In addition, a section titled Avoiding Financial Crisis—Back to the Principles was introduced. This section examines each of the principles individually and how ignoring them helped bring on the recent financial crisis.
- A new section on the importance of ethics and trust in financial management was introduced.
- In addition, new examples were added.

### Chapter 2

#### The Financial Markets and Interest Rates

- This chapter was significantly revised to reflect the recent changes in the financial markets.
- The chapter was simplified to make it livelier and more relevant to students.
- A new section titled The Financing of Business: The Movement of Funds Through the Economy was added. This section illustrates the role of finance in our economy.
- The discussion of investment banking was revised to reflect the dramatic impact of the recent financial crisis on investment banking firms.
- A Cautionary Tale—Forgetting Principle 5: Conflicts of Interest Cause Agency Problems was introduced illustrating the impact of ignoring the principles of finance on the recent financial crisis.
- The discussion of interest rates determinants was also simplified and made more intuitive.
- This chapter was rewritten with an eye toward providing the student with need-to-know information that is used as building blocks to understand and introduce material in subsequent chapters.

### Chapter 3

#### Understanding Financial Statements and Cash Flows

- A cautionary tale illustrating the peril of forgetting the principle that cash flows determine value.
- A new **Finance at Work** drawing from a recent *Fortune* magazine article that highlights how the world of finance may change as a result of the recent financial crisis.
- A presentation of Hewlett-Packard's financial statements to let a student see a real-world example.
- An improved figure that visually presents the make-up of a balance sheet was added.
- A totally new presentation of cash flows was added.
- The addition of a new section explaining the relevance and computation of income taxes was added.

### Chapter 4

#### Evaluating A Firm's Financial Performance

- A cautionary tale that shows the danger of forgetting the principle that risk requires reward was added.
- A new **Ethics in Financial Management** that describes frequent rationalizations for acting unethically was added.

## Chapter 5

### The Time Value of Money

- A new section on the use of timelines to visualize cash flows was added.
- This chapter was revised with an eye toward making it more accessible to math-phobic students.
- Coverage of the time value of money tables was dropped.
- Alternative approaches to solving time value of money problems were provided.
- A Cautionary Tale—Forgetting Principle 3: Risk Requires a Reward and Principle 4: Market Prices Are Generally Right was introduced.
- An increased emphasis on the intuition behind the time value of money was provided stressing visualizing and setting up the problem.

## Chapter 6

### The Meaning and Measurement of Risk and Return

- The chapter provides an expanded presentation of holding-period returns to insure that students understand the foundation concept of returns.
- When explaining how to compute a standard deviation of returns, we developed a step-by-step approach instead of simply presenting an equation.
- There is a new **Ethics in Financial Management** box that tells the story of Aaron Beam, former CFO of HealthSouth Corporation, who explains how he gradually slipped in committing fraud, and what life is like for him today.
- The chapter offers a new presentation of risk and diversification, using Google as an example.
- There is a new presentation in the chapter showing the relationship between risk and return and the length of the holding period.

## Chapter 7

### The Valuation and Characteristics of Bonds

- This chapter has been revised to provide an updated explanation with examples of the nature and characteristics of bonds.
- There are all new real-world examples of how to compute the value and expected rates of returns of a bond.

## Chapter 8

### The Characteristics and Value of Stocks

- The chapter presents a cautionary tale that lets a student see some of the foolish ways investors try to outperform the market, usually with disastrous results, suggesting that Principle 4, Market Prices Are Generally Right, is active and working.
- We have simplified the presentation of stock valuation that better fits the needs of a student in a beginning finance class.

## Chapter 9

### The Cost of Capital

- This chapter was moved to appear before the discussion of capital budgeting.
- The new placement provides a logical transition from the discussion of the determinants of capital market rates of return in Chapter 8 to the application of this material to the estimation of the firm's cost of capital.
- The plight of Goldman Sachs when the credit markets seized up in 2008 is used to illustrate the volatile nature of a firm's cost of capital.



**Chapter 10****Capital Budgeting Techniques and Practice**

- Added coverage of the discounted payback period was included.
- The number of worked out examples were increased in this chapter since this is one of the key chapters in the book and one that traditionally provides students with a great deal of difficulty.
- Additional problems were added.

**Chapter 11****Cash Flows and Other Topics in Capital Budgeting**

- The discussion of the calculation of a project's free cash flows was simplified and made more intuitive in nature, while additional worked out problems were added to the chapter.

**Chapter 12****Determining the Financing Mix**

- Increased the discussion linking operating, financial, and combined leverage.

**Chapter 13****Dividend Policy and Internal Financing**

- Additional coverage of the practical considerations underlying the determination of a firm's dividend policy.

**Chapter 14****Short-Term Financing**

- Increased emphasis on percent of sales forecasting as well as its inherent limitations.

**Chapter 15****Working Capital Management**

- Revised discussion of the cash conversion cycle and its role in reducing a firm's investment in working capital.

**Chapter 16****Current Asset Management**

- Streamlined coverage of the methods used to speed up collections of accounts receivable.

**Chapter 17****International Business Finance**

- This chapter was revised and updated to reflect changes in exchange rates and in the global financial markets in general.
- The section on interest rate parity was streamlined and simplified.

## **A Complete Support Package for the Student and Instructor**

**MyFinanceLab**

This fully integrated online homework system gives students the hands-on practice and tutorial help they need to learn finance efficiently. Ample opportunities for online practice and assessment in MyFinanceLab are seamlessly integrated into each chapter. For more details, see the inside front cover.

## Instructor's Resource Center

This password-protected site is accessible at [www.pearsonhighered.com/keown](http://www.pearsonhighered.com/keown) and hosts all of the instructor resources that follow. Instructors should click on the “Help Downloading Instructor Resources” link for easy-to-follow instructions on getting access or may contact their sales representative for further information.

## Test Item File

This Online Test Item File, prepared by Alan D. Eastman of Indiana University of Pennsylvania, provides more than 1,600 multiple-choice, true/false, and short-answer questions with complete and detailed answers. The online Test Item File is designed for use with the TestGen-EQ test generating software. This computerized package allows instructors to custom design, save, and generate classroom tests. The test program permits instructors to edit, add, or delete questions from the test bank; edit existing graphics and create new graphics; analyze test results; and organize a database of tests and student results. This new software allows for greater flexibility and ease of use. It provides many options for organizing and displaying tests, along with a search and sort feature.

## Instructor's Manual with Solutions

Written by the authors, the Online Instructor's Manual follows the textbook's organization and represents a continued effort to serve the teacher in his or her goal of being effective in the classroom. Each chapter contains a chapter orientation, an outline of each chapter (also suitable for lecture notes), answers to end-of-chapter questions, and an extensive problem set for each chapter, including a large number of alternative problems along with answers.

The Instructor's Manual is available electronically and instructors can download this file from the Instructor's Resource Center by visiting [www.pearsonhighered.com/keown](http://www.pearsonhighered.com/keown).

## The PowerPoint Lecture Presentation

This lecture presentation tool, prepared by Philip Samuel Russel of Philadelphia University, provides the instructor with individual lecture outlines to accompany the text. The slides include many of the figures and tables from the text. These lecture notes can be used as is or instructors can easily modify them to reflect specific presentation needs.

## Study Guide

The Study Guide to accompany *Foundations of Finance: The Logic and Practice of Financial Management*, 7th Edition, was written by the authors with the objective of providing a student-oriented supplement to the text. Each chapter of the Study Guide contains an orientation of each chapter along with a chapter outline of key topics; problems (with detailed solutions) and self-tests, which can be used to aid in the preparation of outside assignments and in studying for exams; a tutorial on capital budgeting; and a set of tables that not only gives compound sum and present value interest factors but also shows how to compute the interest using a financial calculator.

## Companion Website

([www.pearsonhighered.com/keown](http://www.pearsonhighered.com/keown)) The Website contains various activities related specifically to the Seventh Edition of *Foundations of Finance: The Logic and Practice of Financial Management*.

## Excel Spreadsheets

Created by the authors, these spreadsheets correspond with the end-of-chapter problems from the text. This student resource is available on both the companion Website and MyFinanceLab.



## CourseSmart for Instructors

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