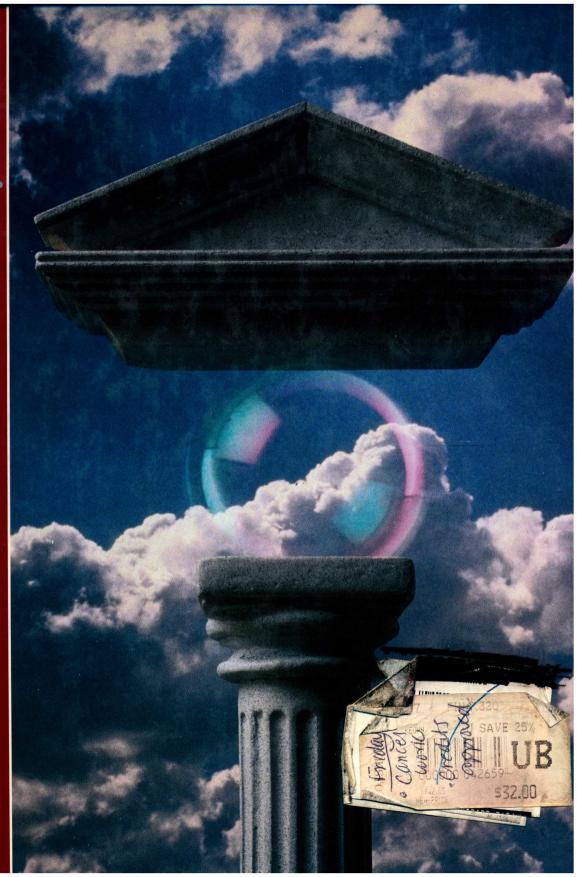
FOUNDATIONS OF FINANCE The Logic and Practice of Financial Management

Keown · Scott · Martin · Petty



FOUNDATIONS OF FINANCE

The Logic and Practice of Financial Management

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Foundations of Finance Dedication

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

—Arthur J. Keown

"To my wife, Peggy, and her parents, Dorothy J. and Wilbur D. Pierce."

—David F. Scott, Jr.

"In loving memory of my mother who was ever encouraging and to my father whose life I seek to emulate."

—John D. Martin

"In memory and appreciation of my parents, John and Kate Petty, for their enduring love and constant encouragement."

—J. William Petty

PREFACE

This book was born in the classroom to provide students with a conceptual understanding of the financial decision-making process, rather than just an introduction to the tools and techniques of finance. It is all too easy for students to lose sight of the logic that drives finance and focus instead on memorizing formulas and procedures. As a result, students have trouble understanding the interrelationships among the topics covered. Moreover, later in life when 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 nine principles or axioms of finance, which 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.

Teaching a one-semester introductory finance class while facing an ever-expanding discipline puts added pressures on the instructor. What to cover, what to omit, and how to do this while maintaining a cohesive presentation are inescapable questions. In dealing with these questions and tightening the focus of the text, we found it helpful to trim the content so that most of the material can be covered in one semester. The reduced content helps to maintain a focus on the underlying principles that drive finance rather than attempt to cover concepts and techniques that are better presented in an intermediate finance course. Again, our goal is to provide an enduring understanding of the basic tools and principles on which finance is based.

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.

DISTINCTIVE FEATURES

Foundations of Finance is not "yet another introductory finance text." Its structure reflects the vitality and expanding nature of the discipline. Finance has grown too comprehensive to continue to teach in a business-as-usual manner, and it has grown too complex to teach without an eye on the big picture, focusing on the interrelationships to be found in what is covered. Listed below are some of the distinctive pedagogical features presented in this book.

NINE AXIOMS OF FINANCE: The principles that drive the practice of corporate finance are presented in nine axioms in Chapter 1. They reappear throughout the text in "Back to the Fundamentals" inserts, which aim to remind students of the underlying principles and to keep students from becoming so immersed in specific calculations that the interrelationships and overall scheme are lost.

PERSPECTIVES IN FINANCE: Inserts entitled *Perspectives in Finance* appear throughout the text to redirect students' attention to the "big picture." Although tools, techniques, and calculations are treated extensively, the use of these Perspectives, as well as the nine axioms, keep the student from losing sight of the interrelationships and motivating factors behind the tools.

FINANCIAL MANAGEMENT IN PRACTICE: Practice is used throughout the text to demonstrate the implementation of theory and is enlivened by "Financial Management in Practice" boxes.

ETHICS IN FINANCIAL MANAGEMENT: We have made a concerted effort to identify some important ethical issues as they relate to financial decision making. In addition to these *Ethics in Financial Management* boxes, which appear in the text, four ethics cases are included in the Instructor's Manual to stimulate constructive classroom dialogue.

INTERNATIONAL FINANCIAL MANAGEMENT: In view of the globalization of world markets, we have integrated international finance into the text through *International Financial Management* boxes. In addition, recognizing that many of us approach the teaching of international finance in different ways, a chapter specifically on international financial management is provided.

SUGGESTED APPLICATIONS FOR DISCLOSURE®: Students frequently have difficulty transferring knowledge to live situations; it is one thing to understand how to work an end-of-chapter problem, but quite another to apply that understanding to an actual company. We are therefore pleased that Prentice Hall has developed an agreement with Disclosure, Incorporated, for the users of Foundations of Finance to have access to the academic edition of Compact DTM/SEC. This database, designed for

designed for the personal computer, contains financial and management information on 100 publicly traded firms. Company data is taken from annual and periodic reports filed with the Securities and Exchange Commission. The firms have been selected for their diversity and appropriateness for the classroom. Approximately half the chapters have suggested uses for the database relative to the material in the respective chapter. The use of the database truly takes the student to a higher level of learning.

ABD NEW/PH VIDEO LIBRARY FOR FINANCE: Video cases selected from ABC News are available to all adopters. To enhance the use of the selected ABC News video tapes, a written introduction to each video is presented, followed by a concluding discussion, questions, and suggested readings at the end of the chapter. These introductions and conclusions greatly improve the effectiveness of the videos in the classroom.

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

A final, but important, comment to the teacher: We know how frustrating errors in a textbook or instructor's manual can be. Thus, we have worked diligently to provide you with as error-free a book as possible. Not only did we check and recheck the answers ourselves, but Prentice Hall hired faculty members at other universities to check the accuracy of the problem solutions. We therefore make the following offer to users of Foundations of Finance:

Any professor or student identifying an error of substance (for example, an incorrect number in an example or problem) in *Foundations of Finance*, in either the text or the instructor's manual, that has not been previously reported to the authors will receive a \$10 reward. If a series of related errors occurs resulting from an original error, the reward will be limited to a maximum of \$20 for the group of errors. Please report any errors to Art Keown at the following address:

Art Keown Department of Finance Virginia Tech Blacksburg, VA 24061

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As a final word, we express our sincere thanks to those using Foundations of Finance in the classroom. We thank you for making us a part of your team. Always feel free to give any of us a call when you have questions or needs.

A.J.K. D.F.S. J.W.P. J.D.M.

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CHAPTER 1

AN INTRODUCTION TO THE FOUNDATIONS OF FINANCIAL MANAGEMENT —THE TIES THAT BIND

Goal of the Firm • Legal Forms of Business Organization • Federal Income Taxation • Nine Axioms That Form the Foundations of Financial Management • Overview of the Text

Financial management is concerned with the maintenance and creation of wealth. Consequently, this course focuses on decision making with an eye to creating wealth. In introducing decision-making techniques we will emphasize the logic behind those techniques, thereby ensuring that you don't lose sight of the concepts when dealing with the calculations. To the first-time student of finance this may sound a bit overwhelming, but as we will see, the techniques and tools introduced in this text are all motivated by nine underlying principles, or axioms, that will guide us through the decision-making process.

To lay a foundation for what will follow, we will begin by introducing the goal of the firm—maximization of shareholder wealth—which we will use as a guide in developing rules for decision making. Several alternative business forms, focusing on the corporate form and the tax environment in which the corporation exists, will then be introduced. In discussing the tax environment, we will concentrate only on that portion of the tax code that affects business decisions. Our attention will then turn to the nine axioms that form the foundation of financial management. Although these axioms may seem quite simple or even trivial, they will provide the driving force behind all that follows. They will also provide the threads that tie the concepts and techniques introduced in the chapters together, all driven to create wealth.

GOAL OF THE FIRM

In this text we designate the goal of the firm to be *maximization of shareholder wealth*, by which we mean maximization of the price of the existing common stock. Not only will this goal directly benefit the shareholders of the company, but it will also provide benefits to society. This will come about as scarce resources are directed to their most productive use by businesses competing to create wealth. With this goal in place, our job as a financial manager becomes to create wealth for the shareholders. To better understand this goal, we will first discuss profit maximization as a possible goal for the firm. Then we will compare it to maximization of shareholder wealth to see why, in financial management, the latter is the more appropriate goal for the firm.

Profit Maximization

In microeconomics courses, profit maximization is frequently given as the goal of the firm. Profit maximization stresses the efficient use of capital resources, but it is not specific with respect to the time frame over which profits are to be measured. Do we maximize profits over the current year, or do we maximize profits over some longer period? A financial manager could easily increase current profits by eliminating research and development expenditures and cutting down on routine maintenance. In the short run, this might result in increased profits, but this clearly is not in the best long-run interests of the firm. If we are to base financial decisions on a goal, that goal must be precise, not allow for misinterpretation, and deal with all the complexities of the real world.

In microeconomics, profit maximization functions largely as a theoretical goal, with economists using it to prove how firms behave rationally to increase profit. Unfortunately, it ignores many real-world complexities that financial managers must address in their decisions. In the more applied discipline of financial management, firms must deal every day with two major factors not considered by the goal of profit maximization: uncertainty and timing.

Microeconomics courses ignore uncertainty and risk to present theory more easily. Projects and investment alternatives are compared by examining their expected values or weighted average profits. Whether one project is riskier than another does not enter into these calculations; economists do discuss risk, but only tangentially. In reality, projects differ a great deal with respect to risk characteristics, and to disregard these differences in the practice of financial management can result in incorrect decisions. As we will discover later in this chapter, there is a very definite relationship between risk and expected return—that is, investors demand a higher expected return for taking on added risk—and to ignore this relationship would lead to improper decisions.

¹See, for example, Robert S. Pindyck and Daniel Rubenfield, *Microeconomics*, 2d ed. (New York: Macmillan, 1992), pp. 244–46.

Another problem with the goal of profit maximization is that it ignores the timing of the project's returns. If this goal is only concerned with this year's profits, we know it inappropriately ignores profit in future years. If we interpret it to maximize the average of future profits, it is also incorrect. Inasmuch as investment opportunities are available for money in hand, we are not indifferent to the timing of the returns. Given equivalent cash flows from profits, we want those cash flows sooner rather than later. Thus, the real-world factors of uncertainty and timing force us to look beyond a simple goal of profit maximization as a decision criterion. We will turn now to an examination of a more robust goal for the firm: maximization of shareholder wealth.

Maximization of Shareholder Wealth

In formulating the goal of maximization of shareholder wealth we are doing nothing more than modifying the goal of profit maximization to deal with the complexities of the operating environment. We have chosen maximization of shareholder wealth—that is, maximization of the market value of the existing shareholders' common stock—because the effects of all financial decisions are thereby included. Investors react to poor investment or dividend decisions by causing the total value of the firm's stock to fall, and they react to good decisions by pushing up the price of the stock. In effect, under this goal, good decisions are those that create wealth for the shareholder.

Obviously, there are some serious practical problems in direct use of this goal and in using changes in the firm's stock to evaluate financial decisions. Many things affect stock prices; to attempt to identify a reaction to a particular financial decision would simply be impossible. Fortunately, that is not necessary. To employ this goal, we need not consider every stock price change to be a market interpretation of the worth of our decisions. Other factors, such as changes in the economy, also affect stock prices. What we will focus on is the effect that our decision *should* have on the stock price if everything else were held constant. The market price of the firm's stock reflects the value of the firm as seen by its owners and takes into account the complexities and complications of the real-world risk. As we follow this goal throughout our discussions, we must keep in mind one more question: Who exactly are the shareholders? The answer: Shareholders are the legal owners of the firm.

LEGAL FORMS OF BUSINESS ORGANIZATION

In the chapters ahead we will focus on financial decisions for corporations. Although the corporation is not the only legal form of business available, it is the most logical choice for a firm that is large or growing. It is also the dominant business form in terms of sales in this country. In this section we will explain why this is so. This will in turn allow us to simplify the remainder of the text, as we will assume that the proper tax code to follow is the corporate tax code, rather than examine different

AN INTRODUCTION TO THE FOUNDATIONS OF FINANCIAL MANAGEMENT —THE TIES THAT BIND