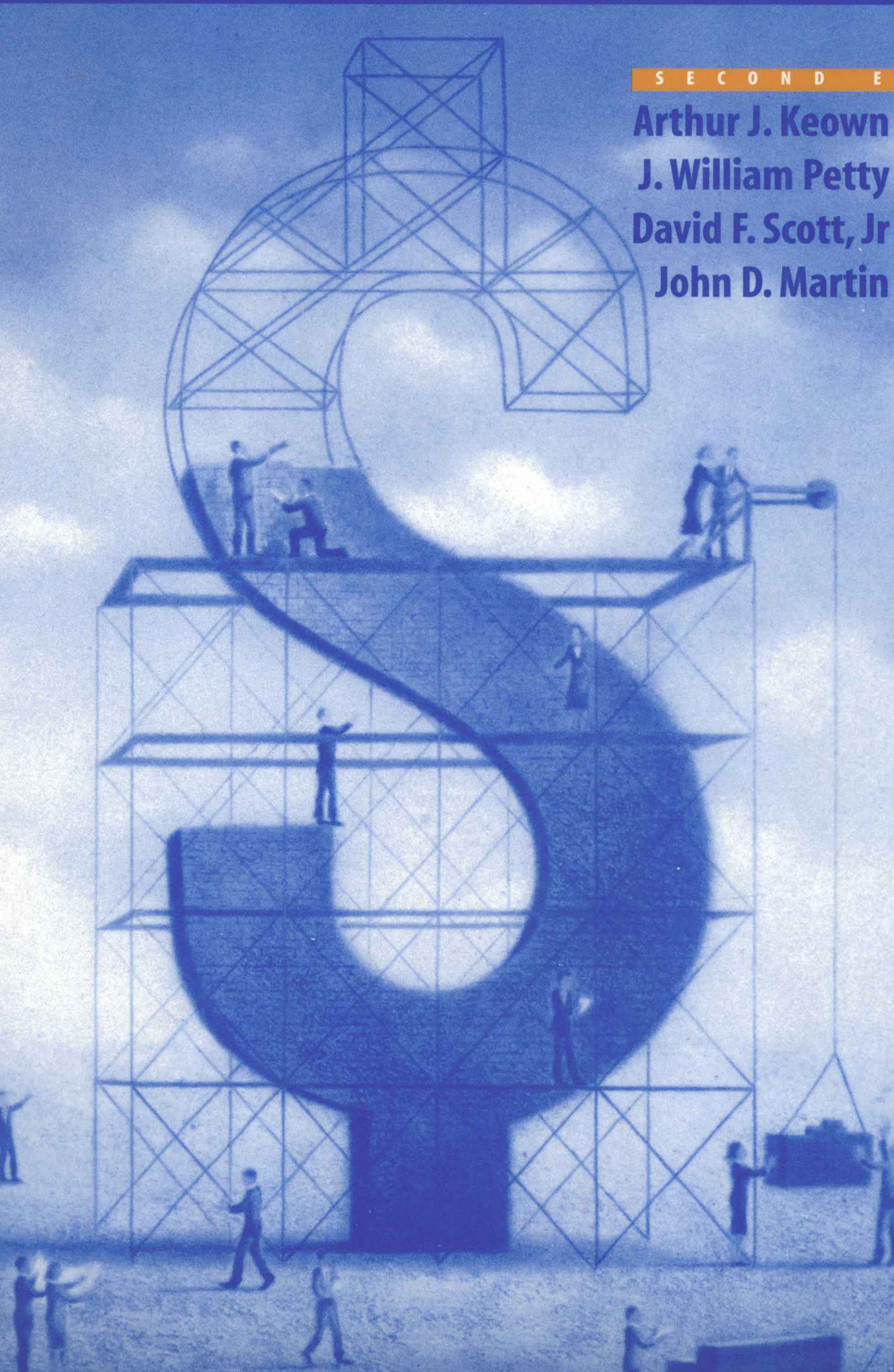
STUDY GUIDE



SECOND EDITION

Arthur J. Keown
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FOUNDATIONS OF FINANCE

THE LOGIC AND PRACTICE OF FINANCIAL MANAGEMENT

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PREFACE

The objective of this *Study Guide* is to provide a student-oriented supplement to *Foundations of Finance*. There are several ways in which we have attempted to accomplish that end, these being:

1. <u>A condensation of each chapter in the form of a detailed sentence outline</u>. This overview of the key points of the chapter can serve both as a preview and quick survey of the chapter content and as a review.

2. <u>Problems (with detailed solutions) and self tests which can be used to aid in the preparation of outside assignments and in studying for examinations</u>. The problems were keyed to the end-of-chapter problems in the text in order to provide direct and meaningful student aid. Also, both multiple-choice and true-false questions are used to provide a self test over the descriptive chapter material.

3. <u>A tutorial on capital budgeting</u>. The tutorial helps the student work through this important topic on an individual basis at his or her own pace.

4. <u>A teacher's note on understanding the rationale and logic of the internal rate of return</u>. Students frequently learn the procedure for computing a project's internal rate of return but fail to grasp the meaning or the "why" of its computation. This brief note helps the student better understand this important concept and tool of finance.

5. A complete article appearing in *Financial Practice and Education* that demonstrates the use of a variety of financial calculators. Students have found the article extremely helpful in getting started at using a financial calculator.

6. In addition to the tables giving compound sum and present value interest factors, we now have tables showing how to compute the interest factors using a financial calculator.

The foregoing material provides what we believe is a valuable learning tool for the student of financial management. Best wishes in your study of finance.

CONTENTS

CHAPTER 1

An Introduction to the Foundations of Financial Management—The Ties That Bind

Orientation: This chapter lays a foundation for what will follow. First, it focuses on the goal of the firm, followed by a review of the legal forms of business organization, and a discussion of the tax implications relating to financial decisions. Ten axioms that form the foundations of financial management then follow.

I. Goal of the firm

A. In this book, we will designate maximization of shareholder wealth, by which we mean maximization of the total market value of the firm's common stock, to be the goal of the firm. To understand this goal and its inclusive nature, it is first necessary to understand the difficulties involved with the frequently suggested goal of profit maximization.

B. While the goal of profit maximization stresses the efficient use of capital resources, it assumes away many of the complexities of the real world and for this reason is unacceptable.

1. One of the major criticisms of profit maximization is that it assumes away uncertainty of returns. That is, projects are compared by examining their expected values or weighted average profit.

2. Profit maximization is also criticized because it assumes away timing differences of returns.

C. Profit maximization is unacceptable, and a more realistic goal is needed.

II. Maximization of shareholder wealth

A. We have chosen the goal of shareholder wealth maximization because the effects of all financial decisions are included in this goal.

B. In order to employ this goal, we need not consider every price change to be a market interpretation of the worth of our decisions. What we do focus on is the effect that our decision *should* have on the stock price if everything were held constant.

C. The agency problem is a result of the separation between the decision makers and the owners of the firm. As a result, managers may make decisions that are not in line with the goal of maximization of shareholder wealth.

III. Legal forms of business organization

A. The significance of different legal forms

1. The predominant form of business organization in the United States in pure numbers is the sole proprietorship.

B. Sole proprietorship: A business owned by a single person and that has a minimum amount of legal structure.

1. Advantages

a. Easily established with few complications

b. Minimal organizational costs

c. Does not have to share profits or control with others

2. Disadvantages

a. Unlimited liability for the owner

b. Owner must absorb all losses

c. Equity capital limited to the owner's personal investment

d. Business terminates immediately upon death of owner

C. Partnership: An association of two or more individuals coming together as co-owners to operate a business for profit.

1. Two types of partnerships

a. General partnership: Relationship between partners is dictated by the partnership agreement.

(1) Advantages

(a) Minimal organizational requirements
(b) Negligible government regulations

(2) Disadvantages

(a) All partners have unlimited liability
(b) Difficulty of raising large amounts of capital
(c) Partnership dissolved by the death or withdrawal of general partner

b. Limited partnership

(1) Advantages

(a) For the limited partners, liability limited to the amount of capital invested in the company
(b) Withdrawal or death of a limited partner does not affect continuity of the business
(c) Stronger inducement in raising capital

(2) Disadvantages

(a) There must be at least one general partner who has unlimited liability in the partnership.
(b) Names of limited partners may not appear in the name of the firm.
(c) Limited partners may not participate in the management of the business.
(d) More expensive to organize than general partnership, as a written agreement is mandatory.

D. The corporation: An impersonal legal entity having the power to purchase, sell, and own assets and to incur liabilities while existing separately and apart from its owners.

1. Ownership is evidenced by shares of stock.

2. Advantages

a. Limited liability of owners

b. Ease of transferability of ownership, i.e., by the sale of one's shares of stock

c. The death of an owner does not result in the discontinuity of the firm's life

d. Ability to raise large amounts of capital is increased

3. Disadvantages

a. Most difficult and expensive form of business to establish

b. Control of corporation not guaranteed by partial ownership of stock

IV. Federal income taxation

A. Objectives of federal income taxation

1. Provide government revenues

2. Achieve socially desirable goals

3. Stabilize the economy

B. Income taxes for sole proprietorship

1. All income and expenses for the business are reported on the owner's personal income tax forms.

2. Taxation of the business income is the same as for the owner's personal income.

C. Income taxes for partnerships

1. Partnership tax return reports every transaction that has a tax consequence and allocates the transactions as specified by the partnership agreement.

2. The individual partners report their portions of the partnership income within their personal tax returns.

D. Income taxes for corporations

1. A tax return must be filed and the resulting taxes paid by the corporation.

2. Taxable income is basically determined as income less allowable exclusions and tax-deductible expenses.

3. Seventy percent of any dividends received from another corporation are tax exempt.

4. Dividends paid by the corporation to its stockholders are not tax deductible.

5. Corporate rate structure:

15%	$0	-	$50,000
25%	$50,001	-	$75,000
34%	$75,001	-	$10,000,000
35%	over		$10,00,00

There is an additional surtax of 5% for income between $100,000 and $335,000.

There is also an additional surtax of 3% on income between $15 million and $18 1/3 million.

6. It may be that some of a firm's income originates in a foreign country. If so, the tax rates, and the method of taxing the firm, frequently vary. The financial manager would obviously want to minimize the firm's taxes by reporting as much income as possible in the low tax-rate countries and as little as possible in the high tax-rate countries. Of course, other factors, such as political risk, may discourage your efforts to minimize taxes across national borders.

7. Depreciation

   a. For assets acquired prior to 1981, two depreciation methods, among others, may be used for tax purposes.

      (1) Straight-line
      (2) Double-declining balance

   b. For assets acquired in 1981 or later, the Accelerated Cost Recovery System (ACRS) should be used.

8. Net operating loss: If a corporation has an operating loss in any year, the loss may be applied against the profits in the 3 prior years. If the loss has not been completely absorbed by the profits in these 3 years, the loss may be carried forward to each of the 15 following years.

9. If after deducting all capital gains and capital losses, the company has a net capital loss, such losses may be carried back for 3 years and forward for 5 years to offset any capital gains occurring during these periods.

E. Implications of taxes in financial decision making

1. Taxes and capital investment decisions

   a. When a plant or equipment acquisition is being considered, the returns from the investment should be measured on an after-tax basis using the marginal, not average, tax rate in the computations.

   b. The depreciation method will have an impact on the timing of taxes.

   c. The estimated salvage value also may have a tax impact; the greater the anticipated salvage value, the less the amount of annual depreciation charges.

2. Taxes and the firm's capital structure: The tax deductibility of interest payments gives debt financing a definite cost advantage over preferred and common stock financing.

3. Taxes and corporate dividend policies: The differential tax treatment for the firm's common stockholders might influence the firm's preference between stock price appreciation, i.e., capital gains for the investor, and dividends, i.e., ordinary income for the investor.

V. Ten axioms that form the foundations of financial management.

   A. Axiom 1: The risk-return tradeoff—we won't take additional risk unless we expect to be compensated with additional return. Almost all financial decisions involve some sort of risk-return tradeoff.

   B. Axiom 2: The time value of money—a dollar received today is worth more than a dollar received in the future.

   C. Axiom 3: Cash--not profits--is King. In measuring value, we will use cash flows rather than accounting profits because it is only cash flows that the firm receives and is able to reinvest.

   D. Axiom 4: Incremental cash flows—it's only what changes that counts. In making business decisions, we will concern ourself only with what happens as a result of that decision.

   E. Axiom 5: The curse of competitive markets—why it's hard to find exceptionally profitable projects. In competitive markets, extremely large profits cannot exist for very long because of competition moving in to exploit those large profits. As a result, profitable projects can be found only if the market is made less competitive, either through product differentiation or by achieving a cost advantage.

   F. Axiom 6: Efficient capital markets—The markets are quick, and the prices are right.

   G. Axiom 7: The agency problem—managers won't work for the owners unless it's in their best interest. The agency problem is a result of the separation between the decision makers and the owners of the firm. As a result, managers may make decisions that are not in line with the goal of maximization of shareholder wealth.

   H. Axiom 8: Taxes bias business decisions.

   I. Axiom 9: All risk is not equal since, some risk can be diversified away, and some cannot. The process of diversification can reduce risk, and, as a result, measuring a project or an asset's risk is very difficult.

   J. Axiom 10: Ethical behavior is doing the right thing, and ethical dilemmas are everywhere in finance. Ethical behavior is important in financial management, just as it is important in everything we do. Unfortunately, precisely how we define what is and what is not ethical behavior is sometimes difficult. Nevertheless, we should not give up the quest.

Study Problems

1. A corporation had $145,000 in taxable earnings. What is the tax liability?

SOLUTION

Income		Marginal Tax Rate	Tax Liability
$ 50,000	x	15%	$ 7,500
25,000	x	25%	6,250
25,000	x	34%	8,500
45,000	x	39%	17,550
$145,000		Total tax liability =	$39,800

2. A corporation has earnings before interest and taxes of $86,000, dividend income of $8,000, and interest expenses of $9,000. Also, a contribution to a university was made in the amount of $1,000. What is the corporation's (a) taxable income and (b) tax liability?

SOLUTION

(a)

Operating income		$86,000
Dividend income	$8,000	
Dividend exclusion		
80% x $8,000	(6,400)	
Taxable dividend income		1,600
Interest expense		(9,000)
Contribution		(1,000)
Taxable income		$77,600

(b)

15%	x	$50,000	=	$ 7,500		
25%	x	25,000	=	6,250		
34%	x	2,600	=	884		
		$77,600		$14,634	=	Tax liability

3. The M. M. Roscoe Corporation is a regional truck dealer. The firm sells new and used trucks and is actively involved in the parts business. During the most recent year, the company generated sales of $4 million. The combined cost of goods sold and the operating expenses were $3.2 million. Also, $300,000 in interest expense was paid during the year. The firm received $5,000 during the year in dividend income from 1,000 shares of common stock that had been purchased three years previously. However, the stock was sold toward the end of the year for $100 per share; its initial cost was $80 per share. The company also sold land that had been recently purchased and had been held for only four months. The selling price was $55,000; the cost was $45,000. Calculate the corporation's tax liability.

SOLUTION

M.M. Roscoe Corp.—Corporate Income Tax

Sales		$4,000,000
Cost of goods sold + operating expenses		(3,200,000)
Operating profits		$800,000
Dividend income	$5,000	
Less 70% exclusion	(3,500)	1,500
Interest expense		(300,000)
S-T capital gain		
Selling price	$55,000	
Cost	(45,000)	10,000
L-T capital gain		
Selling price		
(#shares)(price/share)		
1,000 x $100	$100,000	
Cost		
(#shares)(price/share)		
1,000 x $80	(80,000)	20,000
Taxable ordinary income		$531,500

Tax liability:

$50,000 x .15 =	$7,500
25,000 x .25 =	6,250
456,500 x .34 =	155,210
Surtax:	
$235,000 x .05 =	11,750
Total taxes due =	$180,710

4. The A.K.U. Corporation had sales of $5.5 million this past year. The cost of goods sold was $4.6 million, and operating expenses were $125,000. Dividend income totaled $5,000. The firm sold land for $150,000 that had cost $100,000 five months ago. The firm received $140 per share from the sale of 1,000 shares of stock. The stock was purchased for $100 per share three years ago. Determine the firm's tax liability.

SOLUTION

A.K.U. Corporation—Corporate Income Tax

Sales		$5,500,000
Cost of goods sold		(4,600,000)
Gross profits		$900,000
Operating expenses		(125,000)
Dividend income	$5,000	
Less 70% exclusion	(3,500)	1,500
Ordinary income		$776,500
Plus capital gains		
Land:		
Sales price	$150,000	
Selling price	(100,000)	50,000
Stock:		
Selling price		
(#shares)(price/share)		
1,000 x $140	$140,000	
Cost		
(#shares)(price/share)		
1,000 x $100	(100,000)	40,000
Taxable income		$866,500

Tax liability:

$50,000	x	0.15	=	$7,500
$25,000	x	0.25	=	6,250
$25,000	x	0.34	=	8,500
$235,000	x	0.39	=	91,650
$531,500	x	0.34	=	180,710
$866,500				$294,610