

F I F T H E D I T I O N



STUDY GUIDE TO ACCOMPANY BREALEY-MYERS

PRINCIPLES  
OF  
CORPORATE  
FINANCE

STEWART D. HODGES AND CHARLES D'AMBROSIO

STUDY GUIDE TO ACCOMPANY  
BREALEY AND MYERS

PRINCIPLES  
OF  
CORPORATE  
FINANCE

FIFTH EDITION

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**Study Guide to Accompany Brealey and Myers:  
PRINCIPLES OF CORPORATE FINANCE, Fifth Edition**

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# Preface

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This Study Guide to *Principles of Corporate Finance* by Brealey and Myers helps you learn about finance as quickly and as easily as possible. The Study Guide's purpose is to make you more proficient in the science and art of financial decision making. It helps you achieve this end in three ways.

1. *As an aid to reading the text.* The Study Guide sets the scene for each chapter by telling you how it relates to other chapters and what key ideas you should look for. Additional explanations and worked examples are provided to help deepen your understanding of particular points in the text.
2. *As a source of additional exercises.* The Study Guide provides both questions and answers.
3. *As an aid to reviewing for exams.* The summaries of each chapter and the lists of terms help you to remember a chapter's main points. They help you to review what you have learned, either after you have studied a chapter or when you are preparing for an examination. As you study both the text and the Study Guide, always assume that you are the financial manager, keeping in mind his or her goals, perspective, and rationale for doing what he or she does.

## STRUCTURE OF THE STUDY GUIDE

Each chapter of the Study Guide refers to the corresponding chapter of the text. Except for Chapter 36, each chapter contains the following sections:

### *INTRODUCTION*

The short introduction is a concise guide to what the chapter is about. It helps you to determine the gist of the chapter and understand how it fits in with any neighboring chapters that relate to it.

### *WHAT TO LOOK FOR*

The second section, entitled "What to Look for in Chapter \_\_," helps you find your way through the detail of the corresponding chapter in the text. Special attention is paid to explaining the points that students most often find difficult. It is a good idea to read these first two sections of the Study Guide before studying the corresponding chapter of the text.

### *WORKED EXAMPLES*

Worked examples are provided depending on the nature of the chapter. They enhance the explanations presented earlier and give you a guide to the sorts of calculations you should be able to make after you study the chapter.

### *SUMMARY*

The summary is a concise chapter synopsis. Whereas you might read this before studying the chapter, it is wiser to use it to review what you have learned, either after reading the chapter or when preparing for an examination.

### *LIST OF TERMS*

This section lists the most important *new* terms that you encounter as you read the chapter. Check this list *immediately* after you finish reading a chapter. If you decide to forgo the meaning of a term, check it in the Glossary at the back of the text, or, if necessary, go back to the place in the chapter where it was introduced.

At the end of the Study Guide we have included a complete alphabetical list of terms, which gives the chapter or chapters in which they were defined. You may wish to use this in a number of ways. First, you can use it as an index to look up and read about a particular item. Second, in reviewing your course, you may want to quiz yourself on these terms. The chapter number gives you a check to exclude terms from chapters you haven't covered and to look up ones you've forgotten. Finally, you may want to write in the meaning of these words to create your own glossary.

### *EXERCISES*

The exercises take three main forms. The first set of exercises in each chapter are fill-in questions, which further check to determine whether you know what the new terms mean and how they are used. By filling in these exercises, you provide yourself with a chapter-by-chapter glossary of the most important terms. The second set of exercises consists of problems. These correspond broadly to the types of problems given as worked examples. Finally, essay questions are worth contemplating because they indicate the concepts that you should be able to discuss after you have studied the chapter.

### *ANSWERS*

Where it is possible to do so, we provide answers to all the exercises other than the essay questions. In many cases, fairly complete solutions are given. Nevertheless, we urge you to make sure that you complete your answer before you succumb to the temptation to look at ours!

One point about our answers is in order. Many of the mathematical solutions were calculated either with a hand-held calculator or by computer. Consequently, some of your answers may differ from ours. For example, the tables in the text's Appendix are rounded to three significant digits, whereas most hand-held calculators carry eight digits and computers carry more than that. The differences should not be great, however.

### *STARRED SECTIONS*

Some parts of the summary and some problems are indicated by a star, or asterisk. As in the text, these are of unusual difficulty, and many students want to omit them on a first reading. We hope that some of the starred problems provide an interesting challenge even to more advanced students.

### *SOME TIPS*

You know that authors work from outlines that chart the course of the book and its chapters. It is wise to study the author's outline; it tells you where you are going. Before studying the book, for example, look over the chapter headings in order to locate yourself in the milieu called financial decision making. From this you will discover that firms make investment and financing decisions. By perusing the chapter headings, the topics of financial decision making are placed in perspective.

When you first tackle a chapter, employ the same process you used with respect to the entire book: Page through the chapter and examine the headings of each section and subsection. By so doing you preview events to come, and, as you study one section of the chapter, you will doubtless recall some of the other headings so that the one currently being studied is placed in perspective relative to earlier ones.

Then study the chapter, section by section. After you have done that, go over the summary several times. Then go back over each of the headings and subheadings, stopping for a moment to recall what each contained. Finally, close the text and sit back and tell yourself, aloud if possible, the major points of the chapter.

This approach reaps large benefits and enhances your understanding of financial decision making; the rewards are far in excess of the costs.

The same approach should be taken as you study the Study Guide, keeping in mind that the Study Guide summarizes most of the chapters of the text. As noted above, the format of the Study Guide is straightforward.

## **BON VOYAGE!**

Not all students use study guides in exactly the same ways. However you use it, we trust it will help you to derive as much knowledge and enjoyment from the text as we have. Good luck!

Stewart D. Hodges

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# 1

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## Why Finance Matters

### INTRODUCTION

This chapter, like the first chapter of many other large textbooks, is a brief introduction to the book. It is important because it sets the scene for what is to follow. The chapter answers the following three questions:

1. What kinds of problems occur in finance, and why are they interesting?
2. What is a corporation?
3. Who do we really mean when we talk about the “financial manager”?
4. What topics does the book cover and in what order?

### WHAT TO LOOK FOR IN CHAPTER 1

Chapter 1 has four short sections corresponding to the four questions above and an even shorter concluding section. The full meaning of Sections 1-1 and 1-4 will become apparent only as you progress through the whole book. In the meantime, look out for the following three major sets of problems faced by financial managers. First, to carry on business, companies spend money to purchase various **real assets** such as factories, plants, and machinery. Decisions regarding which specific assets to purchase (or invest in) are the company’s **investment decisions**. Chapters 2 to 12 are concerned with investment decisions.

The second set of problems centers on ways to obtain money or credit. After all when a company wants to make an investment, it may first have to obtain cash in order to be able to do so. Financial managers raise money in various ways. For example, they may borrow money by signing a loan agreement with a bank or by selling debentures (long-term bonds). Alternatively, they may raise additional money by issuing new shares of stock for cash. In both cases the company sells pieces of paper (called **financial assets**) whose value is based on its claims to the profitability of real assets. Decisions about how cash should be raised are *financing decisions*. Financing is dealt with in Chapters 13 to 26. Closely related to financing is the idea that a company can reduce the risks it runs by hedging operations in the financial markets. This is also covered here.

The remaining chapters (27 to 36) are concerned with the third set of problems, a variety that involves *both investment and financing decisions*. These include the management of various forms of short-term borrowing and lending, financial planning, mergers, and international operations. The book concludes with a summary of what is known and what is still unknown in finance.

In sum, the financial manager’s tasks are compartmentalized into investment decisions, financing decisions, and a combination of investment and financing decisions.

**The Role of the Financial Managers:** We have just sketched a few of the many decisions that financial managers have to make. But what criterion is to be applied to select the best decisions? Remember, legally, the shareholders are the ultimate owners of the firm, and the role of the manager is that of an agent acting on behalf of the owners. Therefore, the financial manager’s duty is to make decisions that will benefit shareholders, that



is, will increase the value of their stake in the firm. Of course, although the financial manager's main duty is to the shareholders, there are also obligations to creditors, employees, and society.

Because the prime concern is to try to increase shareholder value, it is hardly surprising that the theory and implications of how financial assets are valued play a key role in the text. They represent an exciting challenge to students and practitioners alike.

The text also stresses the importance of understanding how financial markets work. Financial markets are important to a financial manager for two reasons. First, a financial manager cannot understand how the values of financial assets are determined without knowing something about the markets in which they are traded. Second, a financial manager is often a direct participant in financial markets. They provide a vehicle for raising money (and disbursing it) and for managing risk.

This is a textbook on corporate finance. Section 1-2 tells us what a corporation is and how it differs from the alternatives of a sole proprietorship or a partnership. So far we have begged the question of precisely whom we mean by the "financial manager." Section 1-3 of the chapter deals with that issue. Naturally a large number of managers in a firm may be involved in contributing to financial decisions. Any of these may justifiably be called a financial manager. Of course, some managers specialize in finance. Look out for the special role of the treasurer. In large companies there may be a controller as well as a treasurer. Look out for how their roles differ. Finally, bear in mind the importance of the board of directors. Directors are elected by shareholders (the ultimate owners of the company) and act as their representatives. The final decisions on dividend payments, public issues of securities, and the approval of major investment projects are made by the board of directors.

## SUMMARY

### Financial Decisions

Companies make **investment** decisions about which real assets to purchase.

They make **financing** decisions about how to raise cash.

The usual criterion for success is value. The shareholders are the ultimate owners of the firm, and managers act as their agents. The financial manager should make decisions that will *increase the value of the shareholders' stake in the firm*. (At the same time there is clearly a further duty to honor the firm's obligations to its creditors, its work force, and society at large.)

### The Financial Manager's Job

The financial manager's job cannot be learned just by reading a textbook. The text, although it supplies the conceptual foundation on which good financial decisions are based, is no substitute for experience. Here are three aspects of the financial manager's job:

1. *Understanding capital markets:* The financial manager is an intermediary between the firm's operations and the capital markets in which the firm's securities are traded. Correct investment and financing decisions require an understanding of how capital markets work.
2. *Understanding value:* We can't expect to make financial decisions that will consistently increase the wealth of shareholders unless we understand how financial assets are valued. A large part of the text is devoted to explaining the theory of financial value and its implications.
3. *Understanding the effects of time and uncertainty:* Most investments do not repay themselves for some years, and their outcomes are often very uncertain. The financial manager must understand how the timing and uncertainty of future earnings affect the value of a prospective investment.

## Forms of Organization

The simplest kind of business organization is a one-person business organized as a **sole proprietorship**. A **partnership** is more appropriate where two or more people come together to run a business. Many large accounting firms are organized as partnerships. Both sole proprietorships and partnerships have unlimited liability.

In contrast, a **corporation** is legally distinct from its owners and has **limited liability**. The stockholders, who are the owners of the firm, cannot be held personally liable for its debts. The **board of directors** is appointed by the stockholders as their representatives. The board of directors is responsible for appointing the top managers and ensuring that they act in the stockholders' interests. One distinctive feature of corporations is the separation between ownership and management.

## The Financial Manager

No one person is responsible for all the financial decisions described in the book. The term **financial manager** is used to refer to anyone responsible for a significant financial decision of a company.

The **treasurer** of a company is its principal financial manager. The treasurer is responsible for obtaining financing, managing relations with banks, making sure the company meets its obligations to its security holders, and generally managing the company's capital.

Large corporations may have a **controller** as well as a treasurer. The controller manages budgeting, accounting, and auditing, functions which involve inspecting to see that money is used efficiently. In the largest companies, the treasurer and controller may both report to a financial vice-president who acts as **chief financial officer**.

The power for ultimate financial decisions often rests with the board of directors, although the authority for approving small- or medium-size investments is commonly delegated. Moreover, only the board has the legal power to declare a dividend or sanction a public issue of securities.

## TOPICS COVERED IN THE BOOK

The following outline provides a key to the main sections of the book and to the main topics covered within each section.

MAIN SECTIONS	PART	CHAPTERS	TOPICS COVERED
Introduction	1	1	Why finance matters
The investment decision		2–6	How to value assets
	2	7–9	The link between risk and value
The financing decision	3	10–12	Managing the investment process
	4	13	Can securities be issued at a fair price?
		14–15	How are securities issued?
	5	16–19	Dividend policy and debt policy
	6	20–22	Options and their applications
Financial planning	7	23–26	Valuing different kinds of debt
			Risk management
	8	27–29	Financial analysis, financial planning, and strategy
	9	30–32	Managing short-term assets and liabilities
Mergers and international	10	33–34	Mergers and international finance
Conclusions	11	35	What we do know and do not know about finance

You will find it useful to refer to this outline as you proceed through the book.

## LIST OF TERMS

Bond	Investment
Capital budgeting	Limited liability
Chief financial officer (CFO)	Partnership
Controller	Real assets
Corporation	Securities
Financial assets	Share
Financial market	Sole proprietorship
Financing	Stock
Intangible assets	Tangible assets
	Treasurer

## EXERCISES

### Fill-in Questions

1. A company's \_\_\_\_\_ consist(s) of the tangible and intangible assets that it uses to carry on its business.
2. \_\_\_\_\_ assets consist of physical assets such as factories, offices, plant, machinery, and equipment.
3. Trademarks, patents, and technical expertise are examples of \_\_\_\_\_ assets.
4. Stocks and bonds are pieces of paper that represent claims on real assets. They are called \_\_\_\_\_ assets, or \_\_\_\_\_.
5. A corporate \_\_\_\_\_ is a certificate which shows that money has been lent to a company.
6. A \_\_\_\_\_ (or \_\_\_\_\_) represents a claim to the ownership of a fraction of the company.
7. The purchase of an asset is a(n) \_\_\_\_\_ decision.
8. The firm's \_\_\_\_\_ decisions are concerned with which real investments should be undertaken.
9. The firm's \_\_\_\_\_ decisions are concerned with how cash should be raised.
10. The markets in which financial assets are traded are called \_\_\_\_\_ markets.
11. The \_\_\_\_\_ is the principal financial manager of the firm.
12. Large corporations may have a further financial executive, called a(n) \_\_\_\_\_, who is responsible for budgeting, accounting, and auditing.
13. The role of the \_\_\_\_\_ includes overseeing the work of both the treasurer and the controller.
14. A one-person business organized as a \_\_\_\_\_ has unlimited liability.
15. Many accounting firms are organized as \_\_\_\_\_.
16. In contrast a \_\_\_\_\_ provides \_\_\_\_\_.

### Problems

1. Which of the following are investment decisions and which are financing decisions?
  - a. Issuing common stock
  - b. Developing a new product
  - c. Buying a factory
  - d. Paying a dividend to stockholders

- e. Borrowing from a bank
  - f. Selling a warehouse
  - g. Purchasing shares of another company
2. Which of the following are real assets and which are financial assets?
    - a. A patent
    - b. An office building leased by the company
    - c. A debenture
    - d. Raw-materials inventory
    - e. A lease
    - f. A bank loan

### Essay Questions

1. Describe the differences between each of the following:
  - a. A tangible asset and intangible asset
  - b. Investment and financing
  - c. The treasurer and the controller
  - d. A corporation and a partnership
2. Explain what financial markets are and why financial managers need to understand them.
3. “If firms earn returns commensurate with the level of risk assumed, chances are most of the claimants to the firm’s fortunes will be satisfied.” What do you think? Why?
4. The authors cite a cut in cash dividends as producing a stock price decline because of the bad omen this phenomenon telegraphs to the financial markets. What do you think an unexpected increase in cash dividends suggests? Why?

## ANSWERS TO EXERCISES

### Fill-in Questions

- |                          |                                    |
|--------------------------|------------------------------------|
| 1. Real assets           | 9. Financing                       |
| 2. Tangible              | 10. Financial                      |
| 3. Intangible            | 11. Treasurer                      |
| 4. Financial, securities | 12. Controller                     |
| 5. Bond                  | 13. Chief financial officer        |
| 6. Stock, share          | 14. Sole proprietorship            |
| 7. Investment            | 15. Partnership                    |
| 8. Capital budgeting     | 16. Corporation, limited liability |

### Problems

1. a, d, and e are financing decisions; b, c, f, and g are investment decisions.
2. a, b, and d are real assets; c, e, and f are financial assets.

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# 2

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## Present Value and the Opportunity Cost of Capital

### INTRODUCTION

This chapter introduces the single most important idea in finance: **present value**. Most investments produce revenues at some later date. **Present value** tells us how much the prospect of future income is worth today after taking account of the time value of money. **Net present value** measures how much an investment will add to the value of the company because it is the amount by which the investment's present value exceeds the cost. By accepting positive-NPV and rejecting negative-NPV projects, financial managers increase the value of the company. Such increases always serve the best interests of shareholders as long as they can buy and sell shares and other financial claims in an efficient capital market such as we have in the United States.

### WHAT TO LOOK FOR IN CHAPTER 2

The value of an asset stems from the future cash flows it produces. Present value is the method we use to determine how much the prospect of a future cash flow is worth today.

***Present Value:*** Present value is worth spending some time on because it is important; it tells us how much an investment is worth today, given its expected cash flows. Suppose you have an investment which is expected to pay \$100 in 1 year. How much is it worth to you today? Well, it all depends. On what? On the return you expect to make on other investments of comparable risk. If comparable-risk investments offer a return of 10 percent, an investment of \$90.91 ( $=\$100/1.1$ ) today is expected to produce \$100 in 1 year. Your original investment has a **present value** of \$90.91. If it costs only \$80, it has a **net present value** of \$10.91 ( $=\$90.91 - \$80.00$ ). It makes you better off by \$10.91 relative to the alternative investments. Make sure that you understand the meaning of *return*, *present value*, and *net present value* and that you can calculate each of them.

***The Separation of Ownership and Management:*** Present value has important implications. How can the managers of a large company make decisions that will win the approval of *all* their stockholders (who may number thousands)? The answer is by using present value. When managers make an investment with a positive net present value, they can be certain that they are making every stockholder better off. The **capital market** makes it possible for individuals to postpone their consumption or bring it forward by lending or borrowing at the **capital market rate**. Investments with a return which is higher than the capital market rate make the stockholders better off. Investments with a lower return are inferior to investing directly in the capital market. The existence of the capital market makes it easy for management to be separated from ownership. Managers don't have to keep asking owners, "Would you like me to do this?" Instead, they can ask themselves, "Does this investment offer more than the capital market rate?" Finally, if you want to do deeper into the theory and the detailed assumptions which underlie these principles, you should study Section 2–2. This section is summarized in item 4 of our Summary.

## WORKED EXAMPLE

The following numerical example illustrates the main ideas of the chapter. It shows how to calculate a return, a present value, and a net present value. It also illustrates why financial markets enable ownership and management to be separated (the principle established by Irving Fisher in 1930).

### *PROBLEM: RETURN, NPV, AND THE SEPARATION OF MANAGEMENT*

A company has \$20,000 to invest in a project which will pay back \$23,000 in 1 year.

1. What return does the investment offer?
2. What are its PV and NPV if the capital market rate is 20 percent?
3. What are they if the capital market rate is 10 percent?
4. What difference does it make if the company has no cash currently available for this investment?
5. What difference does it make if some shareholders would prefer to consume more this year and less next year?

### *SOLUTION*

$$1. \text{ Return} = \frac{\text{profit}}{\text{investment}} = \frac{\$23,000 - \$20,000}{\$20,000} = 15 \text{ percent.}$$

$$2. \text{ Present value} = \frac{\$23,000}{1.2} = \$19,167.$$

$$\text{Net present value} = \$19,167 - \$20,000 = -\$833.$$

The investment would make stockholders worse off. The company should either invest the \$20,000 in the capital market to earn 20 percent or return the money to the stockholders for them to consume or reinvest.

$$3. \text{ Present value} = \frac{\$23,000}{1.1} = \$20,909.$$

$$\text{Net present value} = \$20,909 - \$20,000 = \$909.$$

The investment will make the stockholders better off by \$909.

4. It should make no difference to the investment decision. The company can borrow or issue more shares to raise the necessary capital.
5. It should make no difference to the company. Shareholders are free to sell some of their shares to increase their immediate consumption.

## SUMMARY

1. **Why we need a theory of value**
  - a. The aim of investment is to find assets that are worth more than they cost.
  - b. When there is a good market, value = market price, but we still need to know *how* asset values are reached.
  - c. The market for many kinds of assets is very thin.

## 2. Present value

### a. Calculation:

$$PV = (1/(1+r))C_1$$

$$NPV = PV - \text{cost of investment}$$

$$= C_0 + (1/(1+r))C_1$$

where  $C_0$  = cash flow at time 0 (usually negative)

$C_1$  = cash flow at time 1

$r$  = discount rate (= return offered by comparable investment alternatives)

$1+r$  = discount factor

### b. Why we discount:

A dollar today is worth more than a dollar tomorrow.

\$1 invested now is worth  $\$1(1+r)$  in a year's time.

To get \$1 after a year, I must invest  $\$1/(1+r)$  today.

$\$C_1$  in a year's time is worth  $\$C_1/(1+r)$  today.

### c. Rates of return:

Return = profit/investment. Investments with positive NPVs are those that offer a return that is higher than the discount rate. We may either (1) accept investments with positive NPVs or (2) accept investments with a return greater than their opportunity cost of capital.

### d. Opportunity Cost of Capital

The opportunity cost of capital is the expected rate of return available on securities with similar risks to the prospect being valued. For risky investments the required rate of return is usually higher than for safe ones. Also, for these it is the expected future cash flow that we discount. Note that it would be misleading to discount the expected cash flow from a risky investment at the rate available on government bonds. Also, the rate of interest charged by a bank on a loan to fund a project is related to the bank's risk exposure on the loan, and tells us nothing about the opportunity cost of capital for the project itself.

## 3. Separation of ownership and management

### a. Shareholders want

to increase their wealth,

to choose when they consume,

to choose what risks they take.

### b. An efficient capital market provides

choice of when you consume,

choice of what risks you take.

### c. Financial managers

*should* accept all investments with positive NPVs

because this adds to shareholder wealth.

### d. Irving Fisher (1930) discovered this fundamental principle.

### e. Other criteria: Profit maximization doesn't make sense as a corporate objective because: Which year's profits? Why not cut dividends to earn more interest? Which accountant's profit figure?

Managers try to avoid actions which will reduce firm value: This doesn't mean that they must ride roughshod over the weak and helpless! Pressure to perform creates incentives for managers to pay attention to the stockholders' interests.

## \*4. The underlying theory (Section \*2-2)

### a. The argument:

The **capital market** enables people to lend or borrow.

*Lending* postpones consumption; *borrowing* brings it forward.

Investments giving less than the market rate are never worthwhile: It's better to lend.

Investments giving more than the market rate should *always* be made: I can borrow (or sell securities) to leave my current consumption unchanged.

b. The assumptions:

Market rates can be used when the following conditions for a **perfect market** are satisfied:

- (1) No individual can influence prices.
- (2) Access to the market is free. Trading is costless.
- (3) Information about securities is freely available.
- (4) There are no distorting taxes.

A market is called **imperfect** when these assumptions fail. In an imperfect market, shareholders may disagree about what discount rate the manager should use.

## LIST OF TERMS

Capital market

Discount factor

Hurdle rate

Net present value (NPV)

Opportunity cost of capital

Present value (PV)

Return

Separation

## EXERCISES

### Fill-in Questions

1. The current (discounted) value of a future cash flow is called its \_\_\_\_\_.
2. A(n) \_\_\_\_\_ is the present value of a single dollar received at some future date.
3. \_\_\_\_\_ is the profit from an investment expressed as a proportion of the initial outlay.
4. A future cash flow is multiplied by a(n) \_\_\_\_\_ to give its present value.
5. The existence of a market facilitates the \_\_\_\_\_ of ownership and management.
6. The expected return from a comparable investment in bonds or shares represents the \_\_\_\_\_ or \_\_\_\_\_.
7. The \_\_\_\_\_ of an asset is the difference between its present value and its cost.
8. Financial managers will benefit the firm's stockholders if they maximize \_\_\_\_\_.

### Problems

1. If a 1-year bill (which pays \$1000 after 1 year) costs \$920, what (a) the 1-year rate of return are and (b) the 1-year discount factor (DF)?
2. Calculate the 1-year discount factors for discount rates of (a) 5 percent, (b) 15 percent, and (c) 0 percent.
3. I get a 1-year student loan of \$5000 at 3 percent interest instead of the 12 percent rate my bank would charge me. (a) How much money does that save me next year? (b) How much is that savings worth today?



4. I can buy a plot of land for \$120,000, spend a further \$120,000 to build a house on it, and expect to sell it for \$300,000 in a year's time. A similar risk investment would give me an expected return of 15 percent. (a) What is the expected return from my house-building venture? (b) What is the PV of the house? (c) What is the NPV of the project?
5. A. Miser, Sr., has \$20,000 to invest. He is considering two projects. Project A requires \$10,000 and will pay \$11,000 after a year. Project B also requires \$10,000 but will pay only \$10,700 after a year. What should he do if interest rates are (a) 6 percent, (b) 9 percent, or (c) 12 percent?
6. B. Prodigal has just \$50 to her name. She is interested in spending as much money as possible as quickly as possible. She is interested in investment only as a way of increasing her disposable income. Faced with the same opportunities as Miser, Sr., in question 5, what should B. Prodigal do? (Assume she can borrow to invest but not to consume.)
- \*7. I see in *The Wall Street Journal* that I can buy No. 2 cotton at 59.2 cents per pound for immediate delivery and that I can simultaneously contract to sell it as 65.8 cents in 12 months. (a) What return does this represent? (b) I also notice that I can get a return of 9.5 percent by investing in safe 1-year bonds. What do you think is the *least* I would have to pay for storage at the end of a year if I decided to buy and store the cotton?
8. Imagine an economy in which there are just three individuals: A, B, C. Each has money to invest and a number of possible investment projects, each of which would require \$1000. Individual A has \$2000 to invest and has two projects that offer a return of 11 percent and one that offers 8 percent. B has \$1000 to invest and has projects yielding 11 percent and 7 percent. C has \$1000 to invest and has projects offering 15 and 12 percent. (a) What projects will be undertaken if there is no borrowing or lending? (b) If they do borrow and lend to each other, what projects will be undertaken and what will the interest rates be?

### Essay Questions

1. Explain the meaning of net present value and why it is relevant to the financial manager.
2. "Many of our shareholders are retired and cannot afford to lose any of the value of their savings. That is why we demand a higher rate of return on our new investments than do many other companies." Discuss.
3. Explain how the existence of a financial market can benefit both consumers and business people.

### ANSWERS TO EXERCISES

#### Fill-in Questions

1. Present value
2. Discount factor
3. Return
4. Discount factor
5. Capital separation