markets.

4. Financial intermediaries pool investor funds and invest them. Their services are in demand because small investors cannot efficiently gather information, diversify, and monitor portfolios. The financial intermediary sells its own securities to the small investors. The intermediary invests the funds thus raised, uses the proceeds to pay back the small investors, and profits from the difference (the spread).

5. Investment banking brings efficiency to corporate fund-raising. Investment bankers develop expertise in pricing new issues and in marketing them to investors. By the end of 2008, all the major stand-alone U.S. investment banks had been absorbed into commercial banks or had reorganized themselves into bank holding companies. In Europe, where universal banking had never been prohibited, large banks had long maintained both commercial and investment banking divisions.

6. The financial crisis of 2008 showed the importance of systemic risk. Policies that limit this risk include transparency to allow traders and investors to assess the risk of their counterparties, capital adequacy to prevent trading participants from being brought down by potential losses, frequent settlement of gains or losses to prevent losses from accumulating beyond an institution's ability to bear them, incentives to discourage excessive risk taking, and accurate and unbiased risk assessment by those charged with evaluating security risk.

Related Web s[ites] for this chapter available at **ww[w.] mheducation.[com/] olc/bodie**

Key Terms

investment
real assets
financial assets
fixed-income (debt) securities
equity
derivative securities
agency problem
asset allocation
security selection
security analysis
risk–return trade-off
passive management
active management
financial intermediaries
investment companies
investment bankers
primary market
secondary market
securitization
systemic risk

Problem Sets

Basic

1. Financial engineering has been disparaged as nothing more than paper shuffling. Critics argue that resources used for *rearranging* wealth (that is, bundling and unbundling financial assets) might be better spent on *creating* wealth (that is, creating real assets). Evaluate this criticism. Are any benefits realized by creating an array of derivative securities from various primary securities?

2. Why would you expect securitization to take place only in highly developed capital markets?

3. What is the relationship between securitization and the role of financial intermediaries in the economy? What happens to financial intermediaries as securitization progresses?

4. Although we stated that real assets comprise the true productive capacity of an economy, it is hard to conceive of a modern economy without well-developed financial markets and security types. How would the productive capacity of the U.S. economy be affected if there were no markets in which one could trade financial assets?

5. Firms raise capital from investors by issuing shares in the primary markets. Does this imply that corporate financial managers can ignore trading of previously issued shares in the secondary market?

14. The average rate of return on investments in large stocks has outpaced that on investments in Treasury bills by about 7% since 1926. Why, then, does anyone invest in Treasury bills?
15. What are some advantages and disadvantages of top-down versus bottom-up investing styles?
16. You see an advertisement for a book that claims to show how you can make $1 million with no risk and with no money down. Will you buy the book?
17. Why do financial assets show up as a component of household wealth, but not of national wealth? Why do financial assets still matter for the material well-being of an economy?
18. Wall Street firms have traditionally compensated their traders with a share of the trading profits that they generated. How might this practice have affected traders' willingness to assume risk? What is the agency problem this practice engendered?
19. What reforms to the financial system might reduce its exposure to systemic risk?

E-Investments Exercises

Market Regulators

1. Go to the Securities and Exchange Commission Web site, **www.sec.gov**. What is the mission of the SEC? What information and advice does the SEC offer to beginning investors?
2. Go to the FINRA Web site, **www.finra.org** What is its mission? What information and advice does it offer to beginners?
3. Go to the IOSCO Web site, **www.iosco.org**. What is its mission? What information and advice does it offer to beginners?

Visit us at www.mheducation.asia/olc/bodie

Solutions to CONCEPT *Check*

1. *a.* Real
   b. Financial
   c. Real
   d. Real
   e. Financial
2. The central issue is the incentive to monitor the quality of loans when originated as well as over time. Freddie and Fannie clearly had incentive to monitor the quality of conforming loans that they had guaranteed, and their ongoing relationships with mortgage originators gave them opportunities to evaluate track records over extended periods of time. In the subprime mortgage market, the ultimate investors in the securities (or the CDOs backed by those securities), who were bearing the credit risk, should not have been willing to invest in loans with a disproportionate likelihood of default. If they properly understood their exposure to default risk, then the (correspondingly low) prices they would have been willing to pay for these securities would have imposed discipline on the mortgage originators and servicers. The fact that they were willing to hold such large positions in these risky securities suggests that they did not appreciate the extent of their exposure. Maybe they were led astray by overly optimistic projections for housing prices or by biased assessments from the credit reporting agencies. In principle, either arrangement for default risk could have provided the appropriate discipline on the mortgage originators; in practice, however, the informational advantages of Freddie and Fannie probably made them the better "recipients" of default risk. The lesson is that information and transparency are some of the preconditions for well-functioning markets.

Problem Sets

KAPLAN SCHWESER

Basic

1. In what ways is preferred stock like long-term debt? In what ways is it like equity?
2. Why are money market securities sometimes referred to as "cash equivalents"?
3. Which of the following **correctly** describes a repurchase agreement?
   a. The sale of a security with a commitment to repurchase the same security at a specified future date and a designated price.
   b. The sale of a security with a commitment to repurchase the same security at a future date left unspecified, at a designated price.
   c. The purchase of a security with a commitment to purchase more of the same security at a specified future date.
4. What would you expect to happen to the spread between yields on commercial paper and Treasury bills if the economy were to enter a steep recession?
5. What are the key differences between common stock, preferred stock, and corporate bonds?
6. Why are high-tax-bracket investors more inclined to invest in municipal bonds than low-bracket investors?.

Intermediate

7. Turn back to Figure 2.3 and look at the Treasury bond maturing in February 2039.
   a. How much would you have to pay to purchase one of these notes?
   b. What is its coupon rate?
   c. What is the current yield of the note?
8. Suppose investors can earn a return of 2% per 6 months on a Treasury note with 6 months remaining until maturity. What price would you expect a 6-month maturity Treasury bill to sell for?
9. Find the after-tax return to a corporation that buys a share of preferred stock at \$40, sells it at year-end at \$40, and receives a \$4 year-end dividend. The firm is in the 30% tax bracket.
10. Turn to Figure 2.6 and look at the listing for General Dynamics.
   a. How many shares could you buy for \$5,000?
   b. What would be your annual dividend income from those shares?
   c. What must be General Dynamics earnings per share?
   d. What was the firm's closing price on the day before the listing?
11. Consider the three stocks in the following table. P_t represents price at time t, and Q_t represents shares outstanding at time t. Stock C splits two for one in the last period.

	P_0	Q_0	P_1	Q_1	P_2	Q_2
A	90	100	95	100	95	100
B	50	200	45	200	45	200
C	100	200	110	200	55	400

   a. Calculate the rate of return on a price-weighted index of the three stocks for the first period ($t = 0$ to $t = 1$).
   b. What must happen to the divisor for the price-weighted index in year 2?
   c. Calculate the rate of return for the second period ($t = 1$ to $t = 2$).
12. Using the data in the previous problem, calculate the first-period rates of return on the following indexes of the three stocks:
   a. A market-value-weighted index.
   b. An equally weighted index.

13. An investor is in a 30% tax bracket. If corporate bonds offer 9% yields, what must municipals offer for the investor to prefer them to corporate bonds?
14. Find the equivalent taxable yield of a short-term municipal bond currently offering yields of 4% for tax brackets of zero, 10%, 20%, and 30%.
15. What problems would confront a mutual fund trying to create an index fund tied to an equally weighted index of a broad stock market?
16. Which security should sell at a greater price?
    a. A 10-year Treasury bond with a 9% coupon rate versus a 10-year T-bond with a 10% coupon.
    b. A 3-month expiration call option with an exercise price of $40 versus a 3-month call on the same stock with an exercise price of $35.
    c. A put option on a stock selling at $50, or a put option on another stock selling at $60 (all other relevant features of the stocks and options may be assumed to be identical).
17. Look at the futures listings for the corn contract in Figure 2.8.
    a. Suppose you buy one contract for March delivery. If the contract closes in March at a level of 3.875, what will your profit be?
    b. How many March maturity contracts are outstanding?
18. Turn back to Figure 2.7 and look at the Intel options. Suppose you buy a November expiration call option with exercise price $21.
    a. Suppose the stock price in November is $21.75 Will you exercise your call? What is the profit on your position?
    b. What if you had bought the November call with exercise price $22?
    c. What if you had bought a November put with exercise price $22?
19. Why do call options with exercise prices greater than the price of the underlying stock sell for positive prices?
20. Both a call and a put currently are traded on stock XYZ; both have strike prices of $50 and expirations of 6 months. What will be the profit to an investor who buys the call for $4 in the following scenarios for stock prices in 6 months? What will be the profit in each scenario to an investor who buys the put for $6?
    a. $40
    b. $45
    c. $50
    d. $55
    e. $60

Challenge

21. Explain the difference between a put option and a short position in a futures contract.
22. Explain the difference between a call option and a long position in a futures contract.

CFA® PROBLEMS

1. A firm's preferred stock often sells at yields below its bonds because
    a. Preferred stock generally carries a higher agency rating.
    b. Owners of preferred stock have a prior claim on the firm's earnings.
    c. Owners of preferred stock have a prior claim on a firm's assets in the event of liquidation.
    d. Corporations owning stock may exclude from income taxes most of the dividend income they receive.
2. A municipal bond carries a coupon of 6¾% and is trading at par. What is the equivalent taxable yield to a taxpayer in a combined federal plus state 34% tax bracket?
3. Which is the *most risky* transaction to undertake in the stock index option markets if the stock market is expected to increase substantially after the transaction is completed?
    a. Write a call option.
    b. Write a put option.
    c. Buy a call option.
    d. Buy a put option.