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7. Short-selling is the practice of selling securities that the seller does not own. The short-seller borrows the securities sold through a broker and may be required to cover the short position at any time on demand. The cash proceeds of a short sale are kept in escrow by the broker, and the broker usually requires that the short-seller deposit additional cash or securities to serve as margin (collateral).
8. Securities trading is regulated by the Securities and Exchange Commission, by other government agencies, and through self-regulation of the exchanges. Many of the important regulations have to do with full disclosure of relevant information concerning the securities in question. Insider trading rules also prohibit traders from attempting to profit from inside information.

## Key Terms

primary market	ask price	NASDAQ
secondary market	bid-ask spread	stock exchanges
initial public offerings (IPOs)	limit order	block transactions
underwriters	stop orders	program trade
prospectus	over-the-counter (OTC) market	margin
private placement	electronic communication networks (ECNs)	short sale
dealer markets	dark pools	short squeeze
auction market	specialist	inside information
bid price		

## Problem Sets

### Basic

1. Call one full-service broker and one discount broker and find out the transaction costs of implementing the following strategies:
  - a. Buying 100 shares of IBM now and selling them 6 months from now.
  - b. Investing an equivalent amount in 6-month at-the-money call options on IBM stock now and selling them 6 months from now.
2. Who sets the bid and asked price for a stock traded over the counter? Would you expect the spread to be higher on actively or inactively traded stocks?
3. Suppose you short sell 100 shares of IBM, now selling at \$120 per share.
  - a. What is your maximum possible loss?
  - b. What happens to the maximum loss if you simultaneously place a stop-buy order at \$128?
4. A market order has:
  - a. Price uncertainty but not execution uncertainty.
  - b. Both price uncertainty and execution uncertainty.
  - c. Execution uncertainty but not price uncertainty.
5. Where would an illiquid security in a developing country *most likely* trade?
  - a. Broker markets.
  - b. Electronic crossing networks.
  - c. Electronic limit-order markets.

### Intermediate

6. Dée Trader opens a brokerage account and purchases 300 shares of Internet Dreams at \$40 per share. She borrows \$4,000 from her broker to help pay for the purchase. The interest rate on the loan is 8%.
  - a. What is the margin in Dée's account when she first purchases the stock?
  - b. If the share price falls to \$30 per share by the end of the year, what is the remaining margin in her account? If the maintenance margin requirement is 30%, will she receive a margin call?
  - c. What is the rate of return on her investment?

7. Old Economy Traders opened an account to short sell 1,000 shares of Internet Dreams from the previous problem. The initial margin requirement was 50%. (The margin account pays no interest.) A year later, the price of Internet Dreams has risen from \$40 to \$50, and the stock has paid a dividend of \$2 per share.
- What is the remaining margin in the account?
  - If the maintenance margin requirement is 30%, will Old Economy receive a margin call?
  - What is the rate of return on the investment?
8. Consider the following limit-order book of a specialist. The last trade in the stock occurred at a price of \$50.

Limit Buy Orders		Limit Sell Orders	
Price	Shares	Price	Shares
\$49.75	500	\$50.25	100
49.50	800	51.50	100
49.25	500	54.75	300
49.00	200	58.25	100
48.50	600		

- If a market buy order for 100 shares comes in, at what price will it be filled?
  - At what price would the next market buy order be filled?
  - If you were the specialist, would you want to increase or decrease your inventory of this stock?
9. You are bullish on Telecom stock. The current market price is \$50 per share, and you have \$5,000 of your own to invest. You borrow an additional \$5,000 from your broker at an interest rate of 8% per year and invest \$10,000 in the stock.
- What will be your rate of return if the price of Telecom stock goes up by 10% during the next year? The stock currently pays no dividends.
  - How far does the price of Telecom stock have to fall for you to get a margin call if the maintenance margin is 30%? Assume the price fall happens immediately.
10. You are bearish on Telecom and decide to sell short 100 shares at the current market price of \$50 per share.
- How much in cash or securities must you put into your brokerage account if the broker's initial margin requirement is 50% of the value of the short position?
  - How high can the price of the stock go before you get a margin call if the maintenance margin is 30% of the value of the short position?
11. Suppose that Intel currently is selling at \$40 per share. You buy 500 shares using \$15,000 of your own money, borrowing the remainder of the purchase price from your broker. The rate on the margin loan is 8%.
- What is the percentage increase in the net worth of your brokerage account if the price of Intel *immediately* changes to: (i) \$44; (ii) \$40; (iii) \$36? What is the relationship between your percentage return and the percentage change in the price of Intel?
  - If the maintenance margin is 25%, how low can Intel's price fall before you get a margin call?
  - How would your answer to (b) change if you had financed the initial purchase with only \$10,000 of your own money?
  - What is the rate of return on your margined position (assuming again that you invest \$15,000 of your own money) if Intel is selling *after 1 year* at: (i) \$44; (ii) \$40; (iii) \$36? What is the relationship between your percentage return and the percentage change in the price of Intel? Assume that Intel pays no dividends.
  - Continue to assume that a year has passed. How low can Intel's price fall before you get a margin call?

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12. Suppose that you sell short 500 shares of Intel, currently selling for \$40 per share, and give your broker \$15,000 to establish your margin account.
- If you earn no interest on the funds in your margin account, what will be your rate of return after 1 year if Intel stock is selling at: (i) \$44; (ii) \$40; (iii) \$36? Assume that Intel pays no dividends.
  - If the maintenance margin is 25%, how high can Intel's price rise before you get a margin call?
  - Redo parts (a) and (b), but now assume that Intel also has paid a year-end dividend of \$1 per share. The prices in part (a) should be interpreted as ex-dividend, that is, prices after the dividend has been paid.
13. Here is some price information on Marriott:

	Bid	Asked
Marriott	19.95	20.05

You have placed a stop-loss order to sell at \$20. What are you telling your broker? Given market prices, will your order be executed?

14. Here is some price information on Fincorp stock. Suppose that Fincorp trades in a dealer market.

	Bid	Asked
	55.25	55.50

- Suppose you have submitted an order to your broker to buy at market. At what price will your trade be executed?
  - Suppose you have submitted an order to sell at market. At what price will your trade be executed?
  - Suppose you have submitted a limit order to sell at \$55.62. What will happen?
  - Suppose you have submitted a limit order to buy at \$55.37. What will happen?
15. Now reconsider the previous problem assuming that Fincorp sells in an exchange market like the NYSE.
- Is there any chance for the market buy order considered in part (a) to be executed at a price below \$55.50, and the sell order in part (b) at a price above \$55.25?
  - Is there any chance of an immediate trade at \$55.37 for the limit-buy order in part (d)?
16. You've borrowed \$20,000 on margin to buy shares in Disney, which is now selling at \$40 per share. Your account starts at the initial margin requirement of 50%. The maintenance margin is 35%. Two days later, the stock price falls to \$35 per share.
- Will you receive a margin call?
  - How low can the price of Disney shares fall before you receive a margin call?
17. On January 1, you sold short one round lot (that is, 100 shares) of Lowe's stock at \$21 per share. On March 1, a dividend of \$2 per share was paid. On April 1, you covered the short sale by buying the stock at a price of \$15 per share. You paid 50 cents per share in commissions for each transaction. What is the value of your account on April 1?



1. FBN, Inc., has just sold 100,000 shares in an initial public offering. The underwriter's explicit fees were \$70,000. The offering price for the shares was \$50, but immediately upon issue, the share price jumped to \$53.
- What is your best guess as to the total cost to FBN of the equity issue?
  - Is the entire cost of the underwriting a source of profit to the underwriters?

2. If you place a stop-loss order to sell 100 shares of stock at \$55 when the current price is \$62, how much will you receive for each share if the price drops to \$50?
  - a. \$50.
  - b. \$55.
  - c. \$54.87.
  - d. Cannot tell from the information given.
3. Specialists on the New York Stock Exchange do all of the following *except*:
  - a. Act as dealers for their own accounts.
  - b. Execute limit orders.
  - c. Help provide liquidity to the marketplace.
  - d. Act as odd-lot dealers.

### Stock Market Listing Standards

Each exchange sets different criteria that must be satisfied for a stock to be listed there. Listing requirements for the Singapore Exchange can be found at [www.sgx.com](http://www.sgx.com). See *Mainboard Listing Requirements* under the *Listing on SGX* tab. Similarly, listing requirements for the Hong Kong Exchange can be found at [www.hkex.com.hk](http://www.hkex.com.hk). See *Listing Requirements and Procedures* under the *Listing Matters* tab. What are the financial criteria (such as profitability, revenue, and market capitalization) for listing in these exchanges? What are the accounting standards and shareholding spread required by these exchanges?

### E-Investments Exercises

### Solutions to CONCEPT Check ✓

1. Limited-time shelf registration was introduced because its cost savings outweighed the disadvantage of slightly less up-to-date disclosures. Allowing unlimited shelf registration would circumvent “blue sky” laws that ensure proper disclosure as the financial circumstances of the firm change over time.
2.
  - a. Used cars trade in dealer markets (used-car lots or auto dealerships) and in direct search markets when individuals advertise in local newspapers or on the Web.
  - b. Paintings trade in broker markets when clients commission brokers to buy or sell art for them, in dealer markets at art galleries, and in auction markets.
  - c. Rare coins trade mostly in dealer markets in coin shops, but they also trade in auctions and in direct search markets when individuals advertise they want to buy or sell coins.
3.
  - a. You should give your broker a market order. It will be executed immediately and is the cheapest type of order in terms of brokerage fees.
  - b. You should give your broker a limit-buy order, which will be executed only if the shares can be obtained at a price about 5% below the current price.
  - c. You should give your broker a stop-loss order, which will be executed if the share price starts falling. The limit or stop price should be close to the current price to avoid the possibility of large losses.
4. Solving

$$\frac{100P - \$4,000}{100P} = .4$$

yields  $P = \$66.67$  per share.