

I. True or False (Definitions and Concepts)

- T 1. Agency theory analyzes conflicts of interest and behavior in a principal-agent relationship.
- T 2. A principal-agent relationship is a relationship in which one person, an agent, makes decisions that affect another person, a principal.
- F 3. The difference between the value of one action and the value of the best alternative is called moral hazard. **(FALSE: Should be opportunity cost instead of moral hazard.)**
- F 4. Adverse selection refers to situations wherein the agent can take unseen actions for personal benefit even though such actions are costly to the principal. **(FALSE: Should be Moral hazard instead of Adverse selection.)**
- T 5. Most financial transactions are zero-sum games where anyone's gain is someone else's loss.
- F 6. *Hubris* implies that a decision to buy or sell an asset can imply information about the condition of the asset. **(FALSE: Should be The Principle of Self-Interested Behavior instead of Hubris.)**
- F 7. An opportunity cost occurs when misinformation can falsely exist. **(FALSE: Should be adverse selection instead of opportunity cost.)**
- T 8. Adverse selection can discourage people from offering to sell good-quality products.
- T 9. The Principle of Valuable Ideas states that extraordinary returns are achievable with new ideas.
- F 10. The Behavior Principle occurs when a "follower" receives the benefit of an expenditure made by a "leader" through imitating the leader's behavior. **(FALSE: Should be free-rider problem instead of Behavior Principle.)**
- F 11. The Principle of Valuable Ideas states that financial decisions are based on incremental benefits. **(FALSE: Should be Principle of Incremental Benefits instead of Principle of Valuable Ideas.)**
- F 12. A put option gives the owner the right to buy an asset at a specified price and date. **(FALSE: Should be call option instead of put option.)**
- F 13. The Principle of Self-Interest states that investors are better off by investing in different types of assets. **(FALSE: Should be Principle of Diversification instead of Principle of Self-Interest.)**

T 14. Arbitrage refers to the act of buying and selling an asset simultaneously, where the sale price is greater than the purchase price, so that the difference produces a riskless profit.

T 15. Bankers' acceptances are short-term loans made to importers and exporters to facilitate international trade.

II. Multiple Choice (Definitions and Concepts)

a 16. Refers to situations wherein the agent can take unseen actions for personal benefit even though such actions are costly to the principal.

- a. moral hazard
- b. zero-sum game
- c. adverse selection
- d. The Behavioral Principle

d 17. Occurs when misinformation can falsely exist.

- a. The Principle of Valuable Ideas
- b. free-rider problem
- c. moral hazard
- d. adverse selection

c 18. Occurs when a "follower" receives the benefit of an expenditure made by a "leader" by imitating the leader's behavior.

- a. The Principle of Comparative Advantage
- b. asymmetric information
- c. free-rider problem
- d. put option

d 19. Which of the following statements is true?

- a. A security is a claim issued by a firm that pay owners interest but not dividends.
- b. A call option analyzes conflicts of interest and behavior in a principal-agent relationship.
- c. An agent-manager can never make bad decisions.
- d. The difference between the value of one action and the value of the best alternative is called an opportunity cost.

b 20. Which Principle states that extraordinary returns are achievable with new ideas?

- a. The Notional Principle
- b. The Principle of Valuable Ideas
- c. The Principle of Incremental Ideas
- d. The Principle of Risk-Return Trade-Off

d 21. Which of the following statements is false?

- a. An option is the right, but not the obligation, to do something.
- b. The Principle of Incremental Benefits states that financial decisions are based on incremental benefits.
- c. Moral hazard refers to situations wherein the agent can take unseen actions for personal benefit even though such actions are costly to the principal.
- d. The Principle of Comparative Advantage states that extraordinary returns are achievable with new ideas.

- a 22. The Behavioral Principle directs managers to _____.
 a. follow others in its industry if unsure as to what is best
 b. ignore others in its industry if unsure as to what is best
 c. follow others in the industry even if sure the industry norm is not wealth-maximizing
 d. none of these
- d 23. Which statement is false?
 a. The Behavioral Principle is a direct application of the Signaling Principle.
 b. The Signaling Principle says that actions convey information.
 c. The Behavioral Principle can be applied to capital structure choice.
 d. The Behavioral Principle can be applied to situations where it is less cost effective.
- d 24. The Behavioral Principle can be applied to which of the following situations?
 a. The case where there is limited understanding.
 b. The case where its use is more cost effective.
 c. The case where there is full understanding
 d. both a & b are correct
- b 25. Which principle (if any) is the basis for foreign trade?
 a. The Behavioral Principle
 b. The Principle of Comparative Advantage
 c. The Principle of Valuable Ideas
 d. none of these
- c 26. Which of the following is true?
 a. A put option gives the owner the right to buy an asset at a specified price and date.
 b. A call option gives the owner the right to sell an asset at a specified price and date.
 c. An option is a right, without an obligation, to do something.
 d. Insurance is a kind of call option.
- b 27. Select the true statement(s).
 a. People generally behave as though they like risk.
 b. Competition forces people to make a trade-off between the return and the risk of their investment.
 c. You just can't get high returns and high risk simultaneously because that's what everyone wants.
 d. all of these
- d 28. Select the true statement(s).
 a. The Principle of Incremental Benefits states that financial decisions are based on incremental benefits.
 b. The incremental costs and benefits are those that would occur with a particular course of action (e.g., choosing a project).
 c. When making decisions based on incremental costs and benefits, we should ignore sunk costs (costs that occur regardless of our course of action).
 d. all of these

- a 29. Limited liability creates ____.
- the option to default
 - the obligation to default
 - the right to share in residual benefits
 - none of these
- b 30. The Principle of Risk-Return Trade-Off states that an increase in risk leads to__.
- a decrease in return
 - an increase in return
 - no change in return
 - none of these
- b 31. Which of the following statements is true?
- The Principle of Diversification states that investors are better off by investing in two or three good assets even within the same industry.
 - The Principle of Diversification states that investors are better off by investing in different types of assets.
 - The Principle of Diversification states that investors are better off by investing in risk-free assets.
 - The Principle of Diversification states that investors are better off by investing in an industry of their choice.
- d 32. Which of the following investments is more likely to give you a diversified common stock portfolio?
- An index fund investing in stocks in the S&P 500 and in a money market fund.
 - Any stock mutual fund investing in a variety of industries in the United States.
 - A mutual fund investing in European and Asian stocks.
 - An international mutual fund investing in a wide variety of stocks within and outside one's country.
- b 33. Which of the following investments is more likely to give you a diversified portfolio?
- An index fund investing in the S&P 500 and in a government bond fund.
 - An international mutual fund investing in a variety of security types (stocks, bonds, government securities).
 - An international mutual fund investing largely in bonds.
 - A mutual fund investing in a wide variety of stocks within one's country.
- d 34. The best-known capital markets are found in ____.
- New York, Zurich, and Paris
 - Los Angeles, Philadelphia, and Chicago
 - London, Tokyo, and Los Angeles
 - New York, London, and Tokyo
- d 35. The Principle of Capital Market Efficiency says that market prices of financial assets that are traded regularly in the capital markets reflect:
- all available information and adjust partially and quickly to "new" information.
 - all available information and adjust fully but slowly to "new" information.
 - most available information and adjust fully and quickly to "new" information.
 - all available information and adjust fully and quickly to "new" information.

- a 36. You hear of the discovery of large oil deposits. As an investor, you might expect which of the following to happen?
- a. The price of oil would decline, bringing down the value of the oil reserves owned by other firms.
 - b. The price of oil would rise, bringing down the value of the oil reserves owned by other firms.
 - c. The lower price of oil would increase oil revenue.
 - d. none of these
- d 37. Which of the below is an example of one acting on the Principle of Market Efficiency.
- a. You are going through Wal-Mart and the sacker tells you about a “hot” Brazilian fund. You call up your broker and order 100 shares.
 - b. Your sister-in-law is visiting. She tells you that her boss told her to invest in IBM. You go out and buy 100 shares of IBM.
 - c. You are at a barbeque and an acquaintance tells you they just read in *The Wall Street Journal* that Acme, Inc. has increased its dividend. Two days later you buy 100 shares of Acme.
 - d. Whenever you hear a “hot” tip, you assume it is too late for you to expect to make a profit.
- c 38. The dot-com bubble reminds us about what?
- a. Capital markets are probably never efficient.
 - b. Capital markets are always inefficient.
 - c. Capital markets are not always efficient.
 - d. all of these
- c 39. Which statement is false?
- a. You can think of the time value of money as the opportunity to earn interest on a savings account.
 - b. Keeping money as cash creates an opportunity cost, not earning interest on the money.
 - c. Money does not have a time value.
 - d. If you own some money, you can “rent” it to someone else.
- a 40. . Paying interest on interest already earned is called:
- a. paying compound interest
 - b. paying simple interest
 - c. discounting
 - d. none of these
- d 41. Which of the following statements describe money market securities?
- a. Money market securities are long-term claims with an original maturity that is generally more than one year.
 - b. Money market securities are short-term claims with an original maturity that is generally two years or less.
 - c. Money market securities are short-term claims with an original maturity that is generally six months or less.
 - d. Money market securities are short-term claims with an original maturity that is generally one year or less.

- c 42. These are short-term securities issued by the U.S. government with maturities of 13 to 52 weeks.
- a. Commercial paper
 - b. Bankers' acceptances
 - c. Treasury bills
 - d. all of these
- a 43. Commercial paper is ____.
- a. a promissory note sold by very large, creditworthy corporations
 - b. typically \$0,000 or more in size
 - c. issued with maturities ranging from 1 day to 270 weeks
 - d. none of these
- c 44. Bankers' acceptances are ____.
- a. short-term loans made only to importers to facilitate international trade
 - b. short-term loans made only to exporters to facilitate international trade
 - c. issued to the supplier of the goods or services
 - d. held until its maturity of two years or less
- c 45. Which of the following statements is false?
- a. Stocks are long-term securities issued by corporations.
 - b. Common stock is the residual interest in the firm and gives the owner dividend rights, voting rights, liquidation rights, and preemptive rights.
 - c. Common stock promises a dividend payment but usually does not give voting rights.
 - d. Bonds are less risky than stocks.
- b 46. Which of the following is the best example of a common derivative?
- a. 100 shares of IBM
 - b. a forward contract
 - c. your house
 - d. both b & c are correct
- a 47. Which of the following is the best example of a common derivative?
- a. a warrant
 - b. your truck
 - c. your house
 - d. a government security
- a 48. Which of the following is not a good example of a derivative?
- a. a T-bill
 - b. a futures contract
 - c. an option contract
 - d. convertible debt
- c 49. _____ are long-term debt securities with a legal obligation to pay fixed, periodic interest payments and the principal on the date of maturity.
- a. Common shares
 - b. Revolving credit agreements
 - c. Bonds
 - d. none of these

- b 50. Which of the following statements is false?
- Bonds are long-term securities issued by corporations or governments.
 - Preferred stock is the residual interest in the firm and gives the owner dividend rights, voting rights, liquidation rights, and preemptive rights.
 - Preferred stock promises a dividend payment but usually does not give voting rights.
 - Bonds are long-term debt securities with a legal obligation to pay fixed, periodic interest payments and the principal on the date of maturity.
- a 51. _____ promises a dividend payment but usually does not give voting rights.
- Preferred stock
 - Common stock
 - Short-term debt
 - Warrants
- c 52. _____ is an agreement to buy or sell something (such as a commodity) for a particular price at a future point in time.
- Bank loan
 - Option contract
 - Forward contract
 - both b & c are correct
- a 53. Which of the following statements is true?
- A future is a standardized forward contract that is traded in a futures market.
 - A call option contract is an agreement to buy or sell something (e.g., a commodity or financial asset) for a particular price at a future point in time.
 - A nonconvertible security gives holders the right to exchange the security for common shares at a preset price (called the conversion price).
 - all of these
- d 54. Which of the following statements is false?
- A future is a standardized forward contract that is traded in a futures market.
 - A forward contract is an agreement to buy or sell something (e.g., a commodity or financial asset) for a particular price at a future point in time.
 - A convertible debt security gives holders the right to exchange the debt for another security at a preset price (called the conversion price).
 - A put option is a standardized forward contract that is traded in a futures market.
- c 55. A primary market involves _____.
- a transaction where previously issued securities are bought and sold
 - only a first-time offering by a company going public
 - the sale by a firm of newly created securities to get additional financing
 - all of these
- a 56. A swap can be defined as _____.
- an agreement to exchange payments
 - not a derivative
 - the sale by a firm of newly created securities to get additional financing
 - none of these

- c 57. Which of the following statements is (are) false?
 a. A spot market is a market in which assets are bought and sold for immediate delivery.
 b. Some of the same assets traded in spot markets are also traded in the futures markets.
 c. A spot market is a market in which assets are bought and sold for future delivery.
 d. all of these
- b 58. The term structure of interest rates shows the relationship between _____.
 a. time and maturity.
 b. yield and maturity.
 c. yield and risk.
 d. both b & c are correct
- d 59. A yield curve or term structure of interest rates is _____.
 a. upward sloping if yields increase with maturity
 b. downward sloping if yields decrease with maturity
 c. upward sloping if yields decrease with maturity
 d. both a & b are correct
- b 60. Which of the following statements is false?
 a. Ethical behavior implies that people makes correct personal judgments about right and wrong for the good of society and the environment.
 b. Ethical behavior leads to fines and legal expenses.
 c. Ethical behavior requires the principals and agents comply with rules and regulations that govern behavior.
 d. Ethical behavior attracts and keeps high-quality employees and managers.

III. Multiple Choice (Problems)

- c 61. What is the future value of \$2,000 invested today if it earns 10% interest for one year?
 a. \$1,818.18
 b. \$2,000.00
 c. \$2,200.00
 d. cannot tell

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_1 = \$2,000(1.10)^1 = \$2,000(1.10) = \mathbf{\$2,200.00.}$]

- c 62. What is the future value of \$2,000 invested today if it earns 10% interest for two years?
 a. \$3,471.07
 b. \$4,620.00
 c. \$2,420.00
 d. \$1,652.89

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_2 = \$2,000(1.10)^2 = \$2,000(1.21) = \mathbf{\$2,420.00.}$]

b 63. What is the future value of \$6,000 invested today if it earns 8.5% interest for seven years?

- a. \$6,000.00
- b. \$10,620.85
- c. \$15,556.56
- d. none of these

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_7 = \$6,000(1.085)^7 = \$6,000(1.770142) = \mathbf{\$10,620.85.}$]

d 64. What is the future value of \$6,000 invested today if it earns 8% for 10.5 years?

- a. \$2,779.16
- b. \$6,480.00
- c. \$12,953.55
- d. \$13,461.72

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_{10.5} = \$6,000(1.08)^{10.5} = \$6,000(2.243621) = \mathbf{\$13,461.72.}$]

b 65. An investor deposits \$100 into his credit union account that pays interest at the rate of 3.25% per year (payable at the end of each year). He leaves the money and all accrued interest in the account for 7 years. How much will he have at the end of the 7 years?

- a. \$100.00
- b. \$125.09
- c. \$155.09
- d. \$179.94

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_7 = \$100(1.0325)^7 = \$100(1.250923) = \mathbf{\$125.09.}$]

c 66. An investor deposits \$500 into a bank account that pays interest at the rate of 8.5% per year (payable at the end of each year). She leaves the money and all accrued interest in the account for 15 years. How much will she have at the end of the 15 years?

- a. \$500.00
- b. \$994.41
- c. \$1,699.87
- d. \$1,785.92

[ANSWER: The future value formula is: $FV_n = PV(1 + r)^n$ where $(1 + r)^n$ is the future value factor (FVF), r is the compound rate and n is the number of periods. We have: $FV_{15} = \$500(1.085)^{15} = \$500(3.399743) = \mathbf{\$1,699.87.}$]

d 67. What is the future value in five year if you receive \$300 in two years and \$500 at the end of five years? Assume an annual compound rate of 8.5%.

- a. \$156.58
- b. \$255.46
- c. \$656.58
- d. \$883.19

[ANSWER: We have two separate values ($FV_2 = \$300$ and $FV_5 = \$500$) that need to be computed separately and added to get the combined future value at $t = 5$. Since the \$500 is already at time $t = 5$, we need only multiply \$300 by $(1 + r)^3$. We have: $FV_5 = \$300(1.085)^3 + \$500 = \$300(1.2772891) = \$383.19 + \$500 = \mathbf{\$883.19.}$]

- c 68. What is the present value of \$2,000 to be received 2 years from today when the annual discount rate is 10%?
- \$3,471.07
 - \$4,620.00
 - \$1,652.89
 - \$2,420.00

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$2,000}{(1.10)^2} = \$2,000 \frac{1}{(1.10)^2} = \$2,000(0.826446) = \mathbf{\$1,652.89.}$]

- a 69. What is the present value of \$500 to be received 10.5 years from today when the annual discount rate is 8%?
- \$222.85
 - \$648.00
 - \$756.56
 - \$1,953.55

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$500}{(1.08)^{10.5}} = \$500 \frac{1}{(1.08)^{10.5}} = \$500(0.445708) = \mathbf{\$222.85.}$]

- a 70. What is the present value of \$5,000 to be received 10 years from today when the annual discount rate is 8%?
- \$2,315.97
 - \$7,315.97
 - \$10,794.62
 - none of these

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$5,000}{(1.08)^{10}} = \$5,000 \frac{1}{(1.08)^{10}} = \$5,000(0.463193) = \mathbf{\$2,315.97.}$]

- a 71. What is the present value of \$5,000 received when n = 10 years and r = 9.35%?
- \$2,045.42
 - \$7,315.97
 - \$10,794.62
 - \$12,222.44

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$5,000}{(1.0935)^{10}} = \$5,000 \frac{1}{(1.0935)^{10}} = \$5,000(0.409084) = \mathbf{\$2,045.42.}$]

- c 72. What is the present value of \$6,000 received when $n = 7$ years and $r = 8.5\%$?
- \$6,000.00
 - \$5,556.55
 - \$3,389.56
 - none of these

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$6,000}{(1.085)^7} = \$6,000 \frac{1}{(1.085)^7} = \$6,000(0.564926) = \mathbf{\$3,389.56.}$]

- a 73. What is the present value of \$2,000 to be received one year from today when the annual discount rate is 10%?
- \$1,818.18
 - \$2,000.00
 - \$2,200.00
 - cannot tell

[ANSWER: The present value formula is: $PV = \frac{FV_n}{(1+r)^n} = FV_n \frac{1}{(1+r)^n}$ where $\frac{1}{(1+r)^n}$ is the present value factor (PVF), r is the discount rate and n is the number of periods. We have: $PV = \frac{\$2,000}{(1.10)^1} = \$2,000 \frac{1}{(1.10)^1} = \$2,000(0.90909) = \mathbf{\$1,818.18.}$]

- a 74. What is the present value of \$500 to be received in two equal installments (\$250 each), two years and five years from today, when the annual discount rate is 10%?
- \$361.84
 - \$455.23
 - \$506.61
 - \$705.13

[ANSWER: We have two separate future values ($FV_2 = \$250$ and $FV_5 = \$250$) that need to be discounted separately and added to get the combined present value. Thus: $PV = \frac{FV_2}{(1+r)^2} +$

$$\frac{FV_5}{(1+r)^5} = \frac{\$250}{(1.1)^2} + \frac{\$250}{(1.1)^5} = \$206.61 + \$155.23 = \mathbf{\$361.84.}$$

- c 75. What is the present value of \$700 to be received in two equal installments (\$350 each), two years and five years from today, when the annual discount rate is 10%?
- \$217.32
 - \$289.26
 - \$506.58
 - \$987.18

[ANSWER: We have two separate future values ($FV_2 = \$350$ and $FV_5 = \$350$) that need to be discounted separately and added to get the combined present value. Thus: $PV = \frac{FV_2}{(1+r)^2} +$

$$\frac{FV_5}{(1+r)^5} = \frac{\$350}{(1.1)^2} + \frac{\$350}{(1.1)^5} = \$289.26 + \$217.32 = \mathbf{\$506.58.}$$

IV. Longer Problems

Not applicable for Chapter 2

V. Short Answers

76. Define the term opportunity cost in terms of choosing between alternatives.

The opportunity cost of an alternative is the difference between its value and the value of the best possible alternative.

77. What is a principal-agent relationship?

A principal-agent relationship is a relationship in which one person, the agent, is responsible for making decisions that affect another person, the principal. The principal can be viewed as hiring the agent to perform a task.

78. Cite an example in which the problem of moral hazard can arise in a principal-agent relationship.

Moral hazard is a situations wherein the agent can take unseen actions for personal benefit even though such actions are costly to the principal. An example is when a real estate agent informs a potential buyer of the homeowner's lowest acceptable offer in exchange for other benefits. The principal, the homeowner, suffers through the action of the real estate agent.

79. What is a zero-sum game?

A zero-sum game is a situation in which one player can gain only at the expense of another player. Nothing of obvious economic value is achieved but only a transfer of funds.

80. Define the term sunk cost.

A sunk cost is a cost that has already been incurred and will not be altered by subsequent decisions. For example, the decision to proceed with a project should not consider costs that have already been spent or "sunk."

81. Describe a situation that involves information signaling.

A firm's announcement of a dividend increase may signal positive news about recent and future earnings for the firm. On the other hand, a decrease in dividend signals negative news about earnings. The signaling is done by managers who know more about earnings than outsiders.

82. Distinguish between call option and put option indicating when an investor might prefer one over the other.

A call option is a right to buy. A put option is a right to sell. From an investor point of view, one would invest in a call option if is believed the value of the underlying asset will increase. The opposite holds for investing in a put option. The investor will invest in a put option when it is believed the value of the underlying asset will fall.

83. Define the term arbitrage.

Arbitrage is the act of buying and simultaneously selling an asset, where the sale price is higher than the purchase price, so that the difference provides a riskless profit.

84. Distinguish between spot market and futures market.

A spot market is a market to buy and sell something today for immediate delivery at today's rate. In a futures market, assets are bought and sold for future delivery at an agreed on future price.

85. Distinguish between option contract and future contract.

Options contracts confer rights on their buyers and obligations on their sellers. Futures contracts confer obligations on both parties.

86. Distinguish between broker and dealer.

A broker is a middleman who helps clients buy and sell securities for a commission, but who does not take ownership of the securities. A dealer, on the other hand, maintains inventories of securities, and buys and sells to clients, to and from these inventories.

87. Distinguish between primary market and secondary market.

The primary market is the market in which newly created securities are sold by a firm to obtain additional financing. The secondary market is where previously issued or "used" securities are traded.

88. Distinguish between initial public offering (IPO) and seasoned offering.

An initial public offering (IPO) involves the sale of a firm's securities to the public for the first time. Any subsequent offerings of the firm's securities are seasoned offerings.

89. Distinguish between investment banker and financial intermediary.

An investment banker specializes in marketing new securities in the primary market and also facilitates trading in securities. A financial intermediary is an institution that invests in securities, but is itself financed through the issuance of other financial claims. A financial intermediary transforms the characteristics of financial claims from one form (for example, savings account) to another (for example, commercial loan).

90. Distinguish between forward contract and future contract.

Futures contracts are standardized forward contracts that are traded on an exchange. The standardization and exchange trading of the futures contracts makes them more liquid than forward contracts which are tailor-made to fit the needs of the buyers and sellers.

91. Distinguish between stock and bond.

Shares of stock in a firm represent ownership of the firm and can give specific rights related to ownership like voting rights. Bonds issued by a firm are long-term debt obligations of the firm that give holders first priority on the firm's cash flows.

92. Cite a situation in which the problem of adverse selection can arise.

The problem of adverse selection arises whenever participation in a market signals something negative. This signaling mechanism discourages the inclusion of good-quality products in that market. The classic example involves the market for used cars. If buyers expect all used cars to be "lemons," they are willing to only pay a relatively low price for any used car. As a result, the owners of high-quality used cars will not participate in the used car market because they cannot receive a fair price.

93. Define the term option.

An option provides its owner a right, without an obligation, to do something. The two major types are call and put. A call option is the right to buy an asset at a fixed price within a designated time period. A put option is the right to sell an asset at a fixed price within a designated time period.

94. What is the formula to compute the future value of an amount of money in today's dollars? Define each term.

$FV_n = PV(1 + r)^n$ where PV is the amount of money, r is the compound rate of return, and n is the number of periods.

95. The future value factor is $(1 + r)^n$. This factor is multiplied times a present value sum to get the future value. How is the present value factor related to the future value factor?

The present value factor is the inverse of the future value factor and equals $\frac{1}{(1 + r)^n}$.

VI. Essays or Longer Answers

96. You are driving to work and hear news that Acme's executives say their earnings outlook is good. The next day you pick up the paper and look at the business section. You read that the one of these same executives (who said the outlook is good) sold 100,000 shares representing twenty percent of his holdings. Interpret this contradictory news in light of the Signaling Principle.

If the manager really thought the outlook for Acme is good, one might assume that he would be buying. However, on the contrary, he is selling. Not only is he selling, but he is unloading twenty percent of his ownership. The Signaling Principle implies that the manager's actions convey negative information. Thus, despite his optimistic words, his actions indicate that Acme is overvalued.

Because actions speak louder than words, we need to try to explain the manager's action in terms of some other reason besides selling an overvalued security. For example, further exploration might reveal if there is some valid reason for the manager selling some of his holdings in Acme. For instance, we may find that the selling manager had one of the following valid reasons: diversification of his retirement portfolio, personal or family health needs for which he is responsible, or something similar that involves his own well-being regardless of what he feels about the future prospects for Acme.

97. Explain how the Behavioral Principle is derived directly from the Signaling Principle. Name and describe the two types of situations in which it is typically applied.

The Behavioral Principle is a direct application of the Signaling Principle where the latter claims that actions convey information. In essence, The Behavioral Principle says, "Let's try to use such information."

In practice, the Behavioral Principle is typically applied in two types of situations. In some situations, such as the choice of a capital structure, theory doesn't provide a clear solution to the problem. In other situations, theory provides a clear solution, but the cost of gathering the necessary information outweighs the potential benefit. Valuing certain assets is an example of the latter costly case. However, the value of some assets, such as stock or a piece of real estate, can often be estimated at relatively low cost from the observed recent purchase prices of similar assets. In cases such as these, managers use the Behavioral Principle to arrive at an inexpensive approximation of the correct answer.

98. Describe in your own words what is meant by the term efficient capital market.

The term efficient capital market means that the price of any security traded in that market is a function of all available information (about the firm, its competitors, the economy, and so forth) and when any new information becomes available, the price of the security quickly changes to its correct price based on the new set of information. If the markets are efficient, it implies that stock prices are fair as they incorporate all known information. If this collective information is superior to that of any individual, then one should not only view the price as a fair price but also as a price to accept if one is interested in buying the stock.

99. An important application of the Principle of Self-Interested Behavior is called agency theory. Explain the difference between an agent and a principal. How do agency problems arise? What are some examples of agency problems? What can corporations do to monitor these costs?

An agent is a person who has the implied or actual authority to act on behalf of another. The principals are the individuals whom the agents represent. The interests of the principals are supposed to be paramount when agents make decisions. Agency problems occur when the interests of principals (owners) and agents (managers) diverge. Examples include those between the firm (as the principal) and its employees (including managers, sales people, and others agents). The firm also has a principal-agent relationship with pension fund managers, with lawyers, and with real estate, travel, and insurance agents. An important principal-agent relationship is that between the firm's stockholders and bondholders. Accounting audits are a common way to monitor these costs. Another way is to give managers stock options.

100. Describe in detail the importance of bankers' acceptances.

Bankers' acceptances are short-term loans made to importers and exporters. They help facilitate international trade. The acceptance occurs when the bank "accepts" a customer's promise to pay. The bankers' acceptance is a guarantee that promises to pay the face amount of the security to whoever presents it for payment. The bank customer uses the bankers' acceptance to finance a transaction by giving the security to a supplier in exchange for goods or services. The supplier can either hold the acceptance until maturity and collect from the bank or sell it at a discount. Bankers' acceptances usually have short maturities (180 days or less). The security is a two-party obligation, a direct customer liability and a contingent liability for the bank. Therefore, the risk of default is very low.

101. Describe the term structure (of interest rates) and cite the factors that cause it to exist.

The term structure of interest rates is depicted by the yield curve of zero coupon U.S. Treasury securities. It displays the relationship between time to maturity and yield to maturity for those securities. Normally, longer term securities have higher yields. The existence of the term structure is influenced by factors such as investor demands for securities of particular maturities, the potential risk of holding longer term securities, and investor expectations about future interest rates. Informally, the phrase term structure is used to refer to the relationship between maturity and interest rates, generally.

102. Explain the Principle of Risk-Return Trade-Off. In terms of investing, what can you say about this principle? For example, would you predict smaller risky companies to have a higher rate of return than less risky larger firms? Would this hold for shorter or longer time periods?

The Principle of Risk-Return Trade-Off says that if you want to have a chance at some really great outcomes, you have to take a chance on having a really bad outcome. In a financial transaction, we assume that when all else is equal, investors prefer higher return and lower risk. However, if you want to get a higher return, you must take on more risk. Historically, small companies have more variability (risk) in returns from year to year and thus yield higher returns than larger companies over the long-run. The pattern of greater returns and greater variability (risk) is consistent with the Principle of Risk-Return Trade-Off.

103. Describe a situation in which a put option can be used to reduce one's investment risk. Explain how this works.

Assume you own a portfolio of stocks. You can buy put options on these stocks or, better yet, you can buy puts on an index representing your portfolio (assuming you can find an index that is appropriate). It works like this. If the price of stocks in your portfolio falls, then the value of your put options goes up. This is because the put option gives you the right to sell an asset at a predetermined price (called a strike price). When market prices fall below this strike price, then the put options become more valuable. This increase in value of the put option offsets the fall in value that your portfolio lost. If the value of your portfolio does not fall, then your cost is the price of the put options, which can be viewed as a cost of insuring that value of your portfolio will not fall.

104. What is the critical difference between the Principle of Valuable Ideas and the Principle of Capital Market Efficiency? Discuss this difference in terms of Microsoft. For example, why would the founders receive greater wealth than those who invested later in Microsoft?

The Principle of Valuable Ideas applies to the return associated with being part of the creation of an opportunity. The Principle of Capital Market Efficiency involves the return associated with simply purchasing part of an opportunity that has become known to everyone. The founders of Microsoft earned a tremendous rate of return on their investment as a result of their innovations. But what happened as other people became aware of the unique advantages that Microsoft's software offered? Those advantages became fully reflected in Microsoft's share price. Thus once the stock became actively traded, a purchaser of Microsoft common stock could expect, because of capital market efficiency, to earn only a rate of return commensurate with the risk of the investment. Of course, because of the very nature of risk, the outcome could be quite different from what was expected.

105. Hidden options dramatically complicate the process of measuring value. In some cases, such options actually provide an alternative way to value an asset. Comment on the following situation as to the hidden option: a firm chooses a short-term project as opposed to a long-term project.

A firm may choose a short-term project for a number of reasons. First, it may provide higher cash flows or less risky cash flows. Secondly, it will expire over a shorter period of time. If during this time period, there is a change in technology, then the firm will be better positioned to spend cash on the new technology. With a long-term project, a company's resources are committed for a longer time period. This makes it difficult for the firm to abandon this choice. If the firm perceives the presence of a hidden option (ability to purchase newer technology), then everything else being equal a firm would choose the short-term project.