

CHAPTER 12

Some Lessons from Capital Market History

I. DEFINITIONS

RISK PREMIUM

- a 1. The excess return required from a risky asset over that required from a risk-free asset is called the:
- a. risk premium.
 - b. geometric premium.
 - c. excess return.
 - d. average return.
 - e. variance.

VARIANCE

- b 2. The average squared difference between the actual return and the average return is called the:
- a. volatility return.
 - b. variance.
 - c. standard deviation.
 - d. risk premium.
 - e. excess return.

STANDARD DEVIATION

- c 3. The standard deviation for a set of stock returns can be calculated as the:
- a. positive square root of the average return.
 - b. average squared difference between the actual return and the average return.
 - c. positive square root of the variance.
 - d. average return divided by N minus one, where N is the number of returns.
 - e. variance squared.

NORMAL DISTRIBUTION

- d 4. A symmetric, bell-shaped frequency distribution that is completely defined by its mean and standard deviation is the _____ distribution.
- a. gamma
 - b. Poisson
 - c. bi-modal
 - d. normal
 - e. uniform

GEOMETRIC AVERAGE RETURN

- d 5. The average compound return earned per year over a multi-year period is called the _____ average return.
- a. arithmetic
 - b. standard
 - c. variant
 - d. geometric
 - e. real

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ARITHMETIC AVERAGE RETURN

- a 6. The return earned in an average year over a multi-year period is called the _____ average return.
- a. arithmetic
 - b. standard
 - c. variant
 - d. geometric
 - e. real

EFFICIENT CAPITAL MARKET

- e 7. An efficient capital market is one in which:
- a. brokerage commissions are zero.
 - b. taxes are irrelevant.
 - c. securities always offer a positive rate of return to investors.
 - d. security prices are guaranteed by the U.S. Securities and Exchange Commission to be fair.
 - e. security prices reflect available information.

EFFICIENT MARKETS HYPOTHESIS

- a 8. The notion that actual capital markets, such as the NYSE, are fairly priced is called the:
- a. Efficient Markets Hypothesis (EMH).
 - b. Law of One Price.
 - c. Open Markets Theorem.
 - d. Laissez-Faire Axiom.
 - e. Monopoly Pricing Theorem.

STRONG FORM EFFICIENCY

- b 9. The hypothesis that market prices reflect all available information of every kind is called _____ form efficiency.
- a. open
 - b. strong
 - c. semi-strong
 - d. weak
 - e. stable

SEMI STRONG FORM EFFICIENCY

- c 10. The hypothesis that market prices reflect all publicly-available information is called _____ form efficiency.
- a. open
 - b. strong
 - c. semi-strong
 - d. weak
 - e. stable

WEAK FORM EFFICIENCY

- d 11. The hypothesis that market prices reflect all historical information is called _____ form efficiency.
- a. open
 - b. strong
 - c. semi-strong
 - d. weak
 - e. stable

II. CONCEPTS

TOTAL RETURN

- d 12. The total percentage return on an equity investment is computed using the formula _____, where P_1 is the purchase cost, P_2 represents the sale proceeds, and d is the dividend income.
- a. $(P_2 - P_1) \div (P_2 + d)$
 - b. $(P_1 - P_2) \div (P_2 + d)$
 - c. $(P_1 - P_2 - d) \div P_1$
 - d. $(P_2 - P_1 + d) \div P_1$
 - e. $(P_2 - P_1 + d) \div P_2$

DIVIDEND YIELD

- a 13. The dividend yield is equal to _____, where P_1 is the purchase cost, P_2 represents the sale proceeds, and d is the dividend income.
- a. $d \div P_1$
 - b. $d \times P_1$
 - c. $d \div P_2$
 - d. $d \times P_2$
 - e. $d \div (P_1 + P_2)$

DIVIDEND YIELD

- c 14. The Zolo Co. just declared that they are increasing their annual dividend from \$1.00 per share to \$1.25 per share. If the stock price remains constant, then:
- a. the capital gains yield will decrease.
 - b. the capital gains yield will increase.
 - c. the dividend yield will increase.
 - d. the dividend yield will also remain constant.
 - e. neither the capital gains yield nor the dividend yield will change.

CAPITAL GAIN

- b 15. The dollar amount of the capital gain on an investment is computed as _____, where P_1 is the purchase cost, P_2 represents the sale proceeds, and d is the dividend income.
- a. $P_1 - P_2$
 - b. $P_2 - P_1$
 - c. $P_2 \div P_1$
 - d. $P_1 - P_2 + d$
 - e. $P_2 - P_1 - d$

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TOTAL RETURN

- e 16. The capital gains yield plus the dividend yield on a security is called the:
- a. variance of returns.
 - b. geometric return.
 - c. average period return.
 - d. summation of returns.
 - e. total return.

REAL RETURN

- c 17. The real rate of return on a stock is approximately equal to the nominal rate of return:
- a. multiplied by $(1 + \text{inflation rate})$.
 - b. plus the inflation rate.
 - c. minus the inflation rate.
 - d. divided by $(1 + \text{inflation rate})$.
 - e. divided by $(1 - \text{inflation rate})$.

REAL RETURN

- c 18. As long as the inflation rate is positive, the real rate of return on a security investment will be _____ the nominal rate of return.
- a. greater than
 - b. equal to
 - c. less than
 - d. greater than or equal to
 - e. unrelated to

HISTORICAL RECORD

- d 19. A portfolio of large company stocks would contain which one of the following types of securities?
- a. stock of the firms which represent the smallest 20 percent of the companies listed on the NYSE
 - b. U.S. Treasury bills
 - c. long-term corporate bonds
 - d. stocks of firms included in the S&P 500 index
 - e. long-term government bonds

HISTORICAL RECORD

- d 20. Based on the period of 1926 through 2003, _____ have tended to outperform other securities over the long-term.
- a. U.S. Treasury bills
 - b. large company stocks
 - c. long-term corporate bonds
 - d. small company stocks
 - e. long-term government bonds

HISTORICAL RECORD

- a 21. Which one of the following types of securities has tended to produce the lowest real rate of return for the period 1926 through 2003?
- a. U.S. Treasury bills
 - b. long-term government bonds
 - c. small company stocks
 - d. large company stocks
 - e. long-term corporate bonds

HISTORICAL RECORD

- d 22. On average, for the period 1926 through 2003:
- a. the real rate of return on U.S. Treasury bills has been negative.
 - b. small company stocks have underperformed large company stocks.
 - c. long-term government bonds have produced higher returns than long-term corporate bonds.
 - d. the risk premium on long-term corporate bonds has exceeded the risk premium on long-term government bonds.
 - e. the risk premium on large company stocks has exceeded the risk premium on small company stocks.

HISTORICAL RECORD

- e 23. Over the period of 1926 through 2003, the annual rate of return on _____ has been more volatile than the annual rate of return on _____:
- a. large company stocks; small company stocks.
 - b. long-term government bonds; long-term corporate bonds.
 - c. U.S. Treasury bills; long-term government bonds.
 - d. long-term corporate bonds; small company stocks.
 - e. large company stocks; long-term corporate bonds.

HISTORICAL RECORD

- d 24. During the period of 1926 through 2003 the annual rate of inflation:
- a. was always positive.
 - b. was only negative during the 3 years of the Great Depression.
 - c. never exceeded 10 percent.
 - d. fluctuated significantly from one year to the next.
 - e. tended to be negative during the years of World War II.

HISTORICAL RECORD

- e 25. Based on the period of 1926 through 2003 the annual rate of inflation ranged from _____ percent to _____ percent.
- a. -5; 6
 - b. -5; 9
 - c. -7; 6
 - d. -7; 15
 - e. -10; 18

HISTORICAL RECORD

- b 26. \$1 invested in U.S. Treasury bills in 1926 would have increased in value to ____ by 2003.
- a. \$10
 - b. \$17
 - c. \$30
 - d. \$43
 - e. \$60

HISTORICAL RECORD

- d 27. Which one of the following is a correct ranking of securities based on their volatility over the period of 1926 to 2003? Rank from highest to lowest.
- a. large company stocks, U.S. Treasury bills, long-term government bonds
 - b. small company stocks, long-term corporate bonds, large company stocks
 - c. small company stocks, long-term government bonds, long-term corporate bonds
 - d. large company stocks, long-term corporate bonds, long-term government bonds
 - e. long-term government bonds, long-term corporate bonds, U.S. Treasury bills

HISTORICAL RECORD

- d 28. \$1 invested in small company stocks in 1926 would have increased in value to _____ by 2003.
- a. \$60
 - b. \$2,284
 - c. \$4,092
 - d. \$10,953
 - e. \$13,185

HISTORICAL RECORD

- d 29. The highest rate of annual inflation between 1926 and 2003 was _____ percent.
- a. 7
 - b. 10
 - c. 13
 - d. 18
 - e. 22

HISTORICAL RECORD

- e 30. The annual return on long-term government bonds has ranged between _____ percent and _____ percent during the period 1926 to 2003.
- a. -2; 8
 - b. -4; 6
 - c. -5; 10
 - d. -6; 29
 - e. -7; 44

HISTORICAL RECORD

- e 31. Over the period of 1926 to 2003, small company stocks had an average return of _____ percent.
- a. 8.8
 - b. 10.2
 - c. 12.4
 - d. 14.6
 - e. 17.5

HISTORICAL AVERAGE RETURNS

- c 32. Over the period of 1926 to 2003, the average rate of inflation was _____ percent.
- a. 2.0
 - b. 2.7
 - c. 3.1
 - d. 3.8
 - e. 4.3

HISTORICAL AVERAGE RETURNS

- c 33. The average annual return on long-term corporate bonds for the period of 1926 to 2003 was _____ percent.
- a. 3.8
 - b. 5.8
 - c. 6.2
 - d. 7.9
 - e. 8.4

AVERAGE RETURNS

- b 34. The average annual return on small company stocks was about _____ percent greater than the average annual return on large-company stocks over the period of 1926 to 2003.
- a. 3
 - b. 5
 - c. 7
 - d. 9
 - e. 11

RISK PREMIUM

- a 35. The average risk premium on U.S. Treasury bills over the period of 1926 to 2003 was _____ percent.
- a. 0.0
 - b. 1.6
 - c. 2.2
 - d. 3.1
 - e. 3.8

RISK PREMIUM

- a 36. Which one of the following is a correct statement concerning risk premium?
- a. The greater the volatility of returns, the greater the risk premium.
 - b. The lower the volatility of returns, the greater the risk premium.
 - c. The lower the average rate of return, the greater the risk premium.
 - d. The risk premium is not correlated to the average rate of return.
 - e. The risk premium is not affected by the volatility of returns.

RISK PREMIUM

- c 37. The risk premium is computed by _____ the average return for the investment.
- a. subtracting the inflation rate from
 - b. adding the inflation rate to
 - c. subtracting the average return on the U.S. Treasury bill from
 - d. adding the average return on the U.S. Treasury bill to
 - e. subtracting the average return on long-term government bonds from

RISK PREMIUM

- c 38. The excess return you earn by moving from a relatively risk-free investment to a risky investment is called the:
- a. geometric average return.
 - b. inflation premium.
 - c. risk premium.
 - d. time premium.
 - e. arithmetic average return.

RISK PREMIUM

- b 39. To convince investors to accept greater volatility in the annual rate of return on an investment, you must:
- a. decrease the risk premium.
 - b. increase the risk premium.
 - c. decrease the expected rate of return.
 - d. decrease the risk-free rate of return.
 - e. increase the risk-free rate of return.

FREQUENCY DISTRIBUTION

- a 40. Which one of the following takes the shape of a bell curve?
- a. frequency distribution
 - b. variance
 - c. risk premium graph
 - d. standard deviation
 - e. deviation of returns

VARIANCE

- e 41. Which of the following statements are correct concerning the variance of the annual returns on an investment?
- I. The larger the variance, the more the actual returns tend to differ from the average return.
 - II. The larger the variance, the larger the standard deviation.
 - III. The larger the variance, the greater the risk of the investment.
 - IV. The larger the variance, the higher the expected return.
- a. I and III only
 - b. II, III, and IV only
 - c. I, III, and IV only
 - d. I, II, and III only
 - e. I, II, III, and IV

VARIANCE

- a 42. The variance of returns is computed by dividing the sum of the:
- a. squared deviations by the number of returns minus one.
 - b. average returns by the number of returns minus one.
 - c. average returns by the number of returns plus one.
 - d. squared deviations by the average rate of return.
 - e. squared deviations by the number of returns plus one.

STANDARD DEVIATION

- b 43. Which of the following statements concerning the standard deviation are correct?
- I. The greater the standard deviation, the lower the risk.
 - II. The standard deviation is a measure of volatility.
 - III. The higher the standard deviation, the less certain the rate of return in any one given year.
 - IV. The higher the standard deviation, the higher the expected return.
- a. I and III only
 - b. II, III, and IV only
 - c. I, III, and IV only
 - d. I, II, and III only
 - e. I, II, III, and IV

STANDARD DEVIATION

- a 44. The standard deviation on small company stocks:
- I. is greater than the standard deviation on large company stocks.
 - II. is less than the standard deviation on large company stocks.
 - III. had an average value of about 33 percent for the period 1926 to 2003.
 - IV. had an average value of about 20 percent for the period 1926 to 2003.
- a. I and III only
 - b. I and II only
 - c. II and III only
 - d. II and IV only
 - e. I and IV only

ARITHMETIC VS. GEOMETRIC AVERAGES

- b 45. Estimates using the arithmetic average will probably tend to _____ values over the long-term while estimates using the geometric average will probably tend to _____ values over the short-term.
- a. overestimate; overestimate
 - b. overestimate; underestimate
 - c. underestimate; overestimate
 - d. underestimate; underestimate
 - e. accurately; accurately

MARKET EFFICIENCY

- d 46. In an efficient market, the price of a security will:
- a. always rise immediately upon the release of new information with no further price adjustments related to that information.
 - b. react to new information over a two-day period after which time no further price adjustments related to that information will occur.
 - c. rise sharply when new information is first released and then decline to a new stable level by the following day.
 - d. react immediately to new information with no further price adjustments related to that information.
 - e. be slow to react for the first few hours after new information is released allowing time for that information to be reviewed and analyzed.

MARKET EFFICIENCY

- c 47. If the financial markets are efficient, then investors should expect their investments in those markets to:
- a. earn extraordinary returns on a routine basis.
 - b. generally have positive net present values.
 - c. generally have zero net present values.
 - d. produce arbitrage opportunities on a routine basis.
 - e. produce negative returns on a routine basis.

MARKET EFFICIENCY

- d 48. Which one of the following statements is correct concerning market efficiency?
- a. Real asset markets are more efficient than financial markets.
 - b. If a market is efficient, arbitrage opportunities should be common.
 - c. In an efficient market, some market participants will have an advantage over others.
 - d. A firm will generally receive a fair price when it sells shares of stock.
 - e. New information will gradually be reflected in a stock's price to avoid any sudden change in the price of the stock.

MARKET EFFICIENCY

- c 49. Financial markets fluctuate daily because they:
- a. are inefficient.
 - b. slowly react to new information.
 - c. are continually reacting to new information.
 - d. offer tremendous arbitrage opportunities.
 - e. only reflect historical information.

MARKET EFFICIENCY

- d 50. Insider trading does not offer any advantages if the financial markets are:
- a. weak form efficient.
 - b. semiweak-form efficient.
 - c. semistrong-form efficient.
 - d. strong-form efficient.
 - e. inefficient.

MARKET EFFICIENCY

- e 51. According to theory, studying historical prices in order to identify mispriced stocks will not work in markets that are _____ efficient.
- I. weak-form
 - II. semistrong-form
 - III. strong-form
- a. I only
 - b. II only
 - c. I and II only
 - d. II and III only
 - e. I, II, and III

MARKET EFFICIENCY

- e 52. Which of the following tend to reinforce the argument that the financial markets are efficient?
- I. Information spreads rapidly in today's world.
 - II. There is tremendous competition in the financial markets.
 - III. Market prices continually fluctuate.
 - IV. Market prices react suddenly to unexpected news announcements.
- a. I and III only
 - b. II and IV only
 - c. I, II, and III only
 - d. II, III, and IV only
 - e. I, II, III, and IV

MARKET EFFICIENCY

- a 53. If you excel in analyzing the future outlook of firms, you would prefer that the financial markets be _____ form efficient so that you can have an advantage in the marketplace.
- a. weak
 - b. semiweak
 - c. semistrong
 - d. strong
 - e. perfect

MARKET EFFICIENCY

- c 54. Your best friend works in the finance office of the Delta Corporation. You are aware that this friend trades Delta stock based on information he overhears in the office. You know that this information is not known to the general public. Your friend continually brags to you about the profits he earns trading Delta stock. Based on this information, you would tend to argue that the financial markets are at best _____ form efficient.
- a. weak
 - b. semiweak
 - c. semistrong
 - d. strong
 - e. perfect

MARKET EFFICIENCY

- c 55. The U.S. Securities and Exchange Commission periodically charges individuals for insider trading and claims those individuals have made unfair profits. Based on this fact, you would tend to argue that the financial markets are at best _____ form efficient.
- a. weak
 - b. semiweak
 - c. semistrong
 - d. strong
 - e. perfect

MARKET EFFICIENCY

- b 56. Individuals that continually monitor the financial markets seeking mispriced securities:
- a. tend to make substantial profits on a daily basis.
 - b. tend to make the markets more efficient.
 - c. are never able to find a security that is temporarily mispriced.
 - d. are always quite successful using only well-known public information as their basis of evaluation.
 - e. are always quite successful using only historical price information as their basis of evaluation.

III. PROBLEMS

DOLLAR RETURNS

- b 57. One year ago, you purchased a stock at a price of \$32.50. The stock pays quarterly dividends of \$.40 per share. Today, the stock is worth \$34.60 per share. What is the total amount of your dividend income to date from this investment?
- a. \$.40
 - b. \$1.60
 - c. \$2.10
 - d. \$2.50
 - e. \$3.70

DOLLAR RETURNS

- d 58. Six months ago, you purchased 100 shares of stock in ABC Co. at a price of \$43.89 a share. ABC stock pays a quarterly dividend of \$.10 a share. Today, you sold all of your shares for \$45.13 per share. What is the total amount of your capital gains on this investment?
- a. \$1.24
 - b. \$1.64
 - c. \$40.00
 - d. \$124.00
 - e. \$164.00

DOLLAR RETURNS

- d 59. A year ago, you purchased 300 shares of IXC Technologies, Inc. stock at a price of \$9.03 per share. The stock pays an annual dividend of \$.10 per share. Today, you sold all of your shares for \$28.14 per share. What is your total dollar return on this investment?
- a. \$5,703
 - b. \$5,733
 - c. \$5,753
 - d. \$5,763
 - e. \$5,853

DIVIDEND YIELD

- b 60. You purchased 200 shares of stock at a price of \$36.72 per share. Over the last year, you have received total dividend income of \$322. What is the dividend yield?
- a. 3.2 percent
 - b. 4.4 percent
 - c. 6.8 percent
 - d. 9.2 percent
 - e. 11.4 percent

DIVIDEND YIELD

- d 61. Winslow, Inc. stock is currently selling for \$40 a share. The stock has a dividend yield of 3.8 percent. How much dividend income will you receive per year if you purchase 500 shares of this stock?
- a. \$152
 - b. \$190
 - c. \$329
 - d. \$760
 - e. \$1,053

DIVIDEND YIELD

- c 62. One year ago, you purchased a stock at a price of \$32 a share. Today, you sold the stock and realized a total return of 25 percent. Your capital gain was \$6 a share. What was your dividend yield on this stock?
- a. 1.25 percent
 - b. 3.75 percent
 - c. 6.25 percent
 - d. 18.75 percent
 - e. 21.25 percent

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CAPITAL GAIN

- a 63. You just sold 200 shares of Langley, Inc. stock at a price of \$38.75 a share. Last year you paid \$41.50 a share to buy this stock. Over the course of the year, you received dividends totaling \$1.64 per share. What is your capital gain on this investment?
- a. -\$550
 - b. -\$222
 - c. -\$3
 - d. \$550
 - e. \$878

CAPITAL GAIN

- b 64. You purchased 300 shares of Deltona, Inc. stock for \$44.90 a share. You have received a total of \$630 in dividends and \$14,040 in proceeds from selling the shares. What is your capital gains yield on this stock?
- a. 4.06 percent
 - b. 4.23 percent
 - c. 4.68 percent
 - d. 8.55 percent
 - e. 8.91 percent

CAPITAL GAIN

- d 65. Today, you sold 200 shares of SLG, Inc. stock.. Your total return on these shares is 12.5 percent. You purchased the shares one year ago at a price of \$28.50 a share. You have received a total of \$280 in dividends over the course of the year. What is your capital gains yield on this investment?
- a. 4.80 percent
 - b. 5.00 percent
 - c. 6.67 percent
 - d. 7.59 percent
 - e. 11.67 percent

TOTAL RETURN

- d 66. Six months ago, you purchased 1,200 shares of ABC stock for \$21.20 a share. You have received dividend payments equal to \$.60 a share. Today, you sold all of your shares for \$22.20 a share. What is your total dollar return on this investment?
- a. \$720
 - b. \$1,200
 - c. \$1,440
 - d. \$1,920
 - e. \$3,840

TOTAL RETURN

- c 67. Eight months ago, you purchased 400 shares of Winston, Inc. stock at a price of \$54.90 a share. The company pays quarterly dividends of \$.50 a share. Today, you sold all of your shares for \$49.30 a share. What is your total percentage return on this investment?
- a. -10.2 percent
 - b. -9.3 percent
 - c. -8.4 percent
 - d. 12.0 percent
 - e. 13.4 percent

REAL RETURN

- b 68. Last year, you purchased a stock at a price of \$51.50 a share. Over the course of the year, you received \$1.80 in dividends and inflation averaged 2.8 percent. Today, you sold your shares for \$53.60 a share. What is your approximate real rate of return on this investment?
- a. 2.4 percent
 - b. 4.8 percent
 - c. 6.2 percent
 - d. 7.6 percent
 - e. 10.4 percent

REAL RETURN

- e 69. Seven months ago, you purchased a stock at a price of \$36.04 a share. Today, you sold those shares for \$43.15 a share. During the past seven months, you have received dividends totaling \$0.24 a share while inflation has averaged 3.6 percent. What is your approximate real rate of return on this investment?
- a. 12.9 percent
 - b. 13.4 percent
 - c. 16.1 percent
 - d. 16.5 percent
 - e. 16.8 percent

STANDARD DEVIATION

- d 70. A stock had returns of 8 percent, -2 percent, 4 percent, and 16 percent over the past four years. What is the standard deviation of this stock for the past four years?
- a. 6.3 percent
 - b. 6.6 percent
 - c. 7.1 percent
 - d. 7.5 percent
 - e. 7.9 percent

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RETURN DISTRIBUTIONS

- a 71. A stock has an expected rate of return of 8.3 percent and a standard deviation of 6.4 percent. Which one of the following best describes the probability that this stock will lose 11 percent or more in any one given year?
- a. less than 0.5 percent
 - b. less than 1.0 percent
 - c. less than 1.5 percent
 - d. less than 2.5 percent
 - e. less than 5 percent

RETURN DISTRIBUTIONS

- d 72. A stock has returns of 3 percent, 18 percent, -24 percent, and 16 percent for the past four years. Based on this information, what is the 95 percent probability range for any one given year?
- a. -8.4 to 11.7 percent
 - b. -16.1 to 22.6 percent
 - c. -24.5 to 34.3 percent
 - d. -35.4 to 41.9 percent
 - e. -54.8 to 61.3 percent

RETURN DISTRIBUTIONS

- c 73. A stock had returns of 8 percent, 14 percent, and 2 percent for the past three years. Based on these returns, what is the probability that this stock will earn at least 20 percent in any one given year?
- a. 0.5 percent
 - b. 1.0 percent
 - c. 2.5 percent
 - d. 5.0 percent
 - e. 16.0 percent

RETURN DISTRIBUTIONS

- c 74. A stock had returns of 11 percent, 1 percent, 9 percent, 15 percent, and -6 percent for the past five years. Based on these returns, what is the approximate probability that this stock will earn at least 23 percent in any one given year?
- a. 0.5 percent
 - b. 1.0 percent
 - c. 2.5 percent
 - d. 5.0 percent
 - e. 16.0 percent

RETURN DISTRIBUTIONS

- c 75. A stock had returns of 8 percent, 39 percent, 11 percent, and -24 percent for the past four years. Which one of the following best describes the probability that this stock will NOT lose more than 43 percent in any one given year?
- a. 84.0 percent
 - b. 95.0 percent
 - c. 97.5 percent
 - d. 99.0 percent
 - e. 99.5 percent

RETURN DISTRIBUTIONS

- b 76. Over the past five years, a stock produced returns of 14 percent, 22 percent, -16 percent, 2 percent, and 10 percent. What is the probability that an investor in this stock will NOT lose more than 8 percent nor earn more than 21 percent in any one given year?
- a. 34 percent
 - b. 68 percent
 - c. 95 percent
 - d. 99 percent
 - e. 100 percent

ARITHMETIC AVERAGE

- b 77. What are the arithmetic and geometric average returns for a stock with annual returns of 4 percent, 9 percent, -6 percent, and 18 percent?
- a. 5.89 percent; 6.25 percent
 - b. 6.25 percent; 5.89 percent
 - c. 6.25 percent; 8.33 percent
 - d. 8.3 percent; 5.89 percent
 - e. 8.3 percent; 6.25 percent

ARITHMETIC VS. GEOMETRIC AVERAGES

- c 78. What are the arithmetic and geometric average returns for a stock with annual returns of 21 percent, 8 percent, -32 percent, 41 percent, and 5 percent?
- a. 5.6 percent; 8.6 percent
 - b. 5.6 percent; 6.3 percent
 - c. 8.6 percent; 5.6 percent
 - d. 8.6 percent; 8.6 percent
 - e. 8.6 percent; 6.3 percent

GEOMETRIC AVERAGE

- b 79. A stock had returns of 6 percent, 13 percent, -11 percent, and 17 percent over the past four years. What is the geometric average return for this time period?
- a. 4.5 percent
 - b. 5.7 percent
 - c. 6.2 percent
 - d. 7.3 percent
 - e. 8.2 percent

GEOMETRIC AVERAGE

- b 80. A stock had the following prices and dividends. What is the geometric average return on this stock?

<u>Year</u>	<u>Price</u>	<u>Dividend</u>
1	\$23.19	—
2	\$24.90	\$.23
3	\$23.18	\$.24
4	\$24.86	\$.25

- a. 3.2 percent
- b. 3.4 percent
- c. 3.6 percent
- d. 3.8 percent
- e. 4.0 percent

IV. ESSAYS

EFFICIENT MARKETS

81. Define the three forms of market efficiency.

The student should present a straightforward discussion of weak (all past prices are in the current price), semi-strong (all public information is in the current price), and strong form (all information is in the current price) market efficiency.

HISTORICAL RETURNS

82. What securities have offered the highest average annual returns over the last several decades? Can we conclude that return and risk are related in real life?

The purpose of this question is to check student understanding of the capital market history discussion of the chapter, as well as to reiterate the concept of the risk-return trade-off. The securities categories discussed in the chapter are listed below in descending order of historical returns (and risk):

- 1. small company stocks
- 2. large company stocks
- 3. long-term corporate bonds
- 4. long-term government bonds
- 5. U.S. Treasury bills

By learning this hierarchy, and given that they are familiar with the attributes of each security, students should be left with little doubt that the maxim “The greater the risk, the greater the return” is an apt description of financial markets.

LESSONS

83. What are the lessons learned from capital market history? What evidence is there to suggest these lessons are correct?

First, there is a reward for bearing risk, and second, the greater the risk, the greater the reward. As evidence, the students should provide a brief discussion of the historical rates of return and standard deviation of returns of the various asset classes discussed in the text.

EFFICIENT MARKETS

84. Explain why it is that in an efficient market, investments have an expected NPV of zero.

In an efficient market, prices are “fair” so that the cost of an investment is neither too high nor too low. Thus, on average, investments in that market will yield a zero NPV. Investors get exactly what they pay for when they buy a security in an efficient market and firms get exactly what their stocks and bonds are worth when they sell them.

EFFICIENT MARKETS

85. Do you think the lessons from capital market history will hold for each year in the future? That is, as an example, if you buy small stocks will your investment always outperform U.S. Treasury bonds?

The student should realize that we are working with averages, so they should not expect riskier assets to always outperform less risky assets. The student should explain somewhere in their answer that this gets to the heart of what risk is. That is, the reason you expect to earn a higher return over the long haul is that your variability in price from year to year can be significant.

RISK AND RETURN

86. Suppose you have \$30,000 invested in the stock market and your banker comes to you and tries to get you to move that money into the bank’s certificates of deposit (CDs). He explains that the CDs are 100% government insured and that you are taking unnecessary risks by being in the stock market. How would you respond?

The usual response is that bank CDs typically will offer a very low rate of return because of their low level of risk. Even if students do not know the relationship between yields on CDs and historical returns on stocks, they should recognize that because of the risk differences the CDs must have a lower expected return. So, if the investor in the question is willing to trade off some safety in order to have the chance to earn larger returns, the stock market is the correct investment.

MARKET EFFICIENCY

87. Suppose your cousin invests in the stock market and doubles her money in a single year while the market, on average, earned a return of only about 15 percent. Is your cousin’s performance a violation of market efficiency?

No, market efficiency does not preclude investors from “beating the market.” It is entirely possible to earn higher returns than the market at times. However, if your cousin is able to do so consistently, then there would certainly be some doubt cast upon market efficiency.

INSIDER TRADING

88. How do you think the stock market would be affected if the laws were changed so that trading on insider information was no longer illegal? What would be the impact on the goal of the financial manager if such a change were to occur?

This open-ended question allows students to ponder market efficiency from a different angle. By allowing insiders to trade on their information, it would be possible for insiders to take advantage of uninformed investors. This may keep some investors out of the market because they would perceive the prices observed as no longer being “fair.” This change would provide a serious blow to the efficiency of the market and would also further complicate the issue of who’s interest managers are working to satisfy.

MARKET EFFICIENCY

89. Why should a financial decision maker such as a corporate treasurer or CFO be concerned with market efficiency?

Good answers to this question might indicate that market efficiency is a necessary condition for the “maximize shareholder wealth” rule. Unless we are confident that the market price is an economically meaningful number, seeking to maximize it is silly. Similarly, students should recognize that there is a very strong link between managerial decisions and the value of the firm, as reflected in security prices. Finally, as a preview of the cost of capital discussion in later chapters, instructors might point out that market efficiency ensures that the required returns on new securities will be directly related to the risk-return profile of the firm and, therefore, to managerial actions.