

## Chapter 4 Mutual Funds and Other Investment Companies

### Multiple Choice Questions

1. Which one of the following is **not** an objective of a stock mutual fund?
  - A) Maximization of capital gains.
  - B) growth
  - C) growth and income
  - D) income and security
  - E) None of the above.

Answer: E Difficulty: Easy

Rationale: All of the above (A - D) may be objectives of different types of mutual funds.

2. Which one of the following statements regarding open-end mutual funds is **false**?
  - A) The funds redeem shares at net asset value.
  - B) The funds offer investors professional management.
  - C) The funds offer investors a guaranteed rate of return.
  - D) B and C.
  - E) A and B.

Answer: C Difficulty: Moderate

Rationale: No investment offers a guaranteed rate of return.

3. Which one of the following statements regarding closed-end mutual funds is **false**?
  - A) The funds invest in large volumes of several securities.
  - B) The funds redeem shares at their net asset value.
  - C) The funds offer investors professional management.
  - D) A and B.
  - E) None of the above.

Answer: B Difficulty: Moderate

Rationale: Closed-end funds are sold at the prevailing market price.

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4. Which of the following functions do mutual fund companies perform for their investors?
- A) Record keeping and administration
  - B) Diversification and divisibility
  - C) Professional management
  - D) Lower transaction costs
  - E) All of the above.

Answer: E Difficulty: Easy

Rationale: Mutual funds are attractive to investors because they offer all of the listed services.

5. Multiple Mutual Funds had year-end assets of \$457,000,000 and liabilities of \$17,000,000. There were 24,300,000 shares in the fund at year-end. What was Multiple Mutual's Net Asset Value?
- A) \$18.11
  - B) \$18.81
  - C) \$69.96
  - D) \$7.00
  - E) \$181.07

Answer: A Difficulty: Moderate

Rationale:  $(457,000,000 - 17,000,000) / 24,300,000 = \$18.11$

6. Diversified Portfolios had year-end assets of \$279,000,000 and liabilities of \$43,000,000. If Diversified's NAV was \$42.13, how many shares must have been held in the fund?
- A) 43,000,000
  - B) 6,488,372
  - C) 5,601,709
  - D) 1,182,203
  - E) None of the above.

Answer: C Difficulty: Moderate

Rationale:  $(\$279,000,000 - \$43,000,000) / \$42.13 = 5,601,708.996$ .

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7. Most actively managed mutual funds, when compared to a market index such as the Wilshire 5000,
- A) beat the market return in all years.
  - B) beat the market return in most years.
  - C) exceed the return on index funds.
  - D) do not outperform the market
  - E) None of the above is a correct statement.

Answer: D Difficulty: Easy

Rationale: Most actively managed mutual funds fail to equal the return earned by index funds, possibly due to higher transactions costs.

8. Pools of money invested in a portfolio that is fixed for the life of the fund are called
- A) closed-end funds.
  - B) open-end funds.
  - C) unit investment trusts.
  - D) REITS.
  - E) redeemable trust certificates.

Answer: C Difficulty: Easy

Rationale: Unit investment trusts are funds that invest in a portfolio, often fixed-income securities, and hold it to maturity.

9. Investors in closed-end funds who wish to liquidate their positions must
- A) sell their shares through a broker.
  - B) sell their shares to the issuer at a discount to Net Asset Value.
  - C) sell their shares to the issuer at a premium to Net Asset Value.
  - D) sell their shares to the issuer for Net Asset Value.
  - E) hold their shares to maturity.

Answer: A Difficulty: Moderate

Rationale: Closed-end fund shares are sold on organized exchanges through a broker.

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10. Closed end funds are frequently issued at a \_\_\_\_\_ to NAV and subsequently trade at a \_\_\_\_\_ to NAV.
- A) discount, discount
  - B) discount, premium
  - C) premium, premium
  - D) premium, discount
  - E) No consistent relationship has been observed.

Answer: D Difficulty: Moderate

Rationale: Closed-end funds are typically issued at a premium to Net Asset Value and subsequently trade at a discount.

11. At issue, offering prices of open-end funds will often be
- A) less than NAV due to loads and commissions.
  - B) greater than NAV due to loads and commissions.
  - C) less than NAV due to limited demand.
  - D) greater than NAV due to excess demand.
  - E) less than or greater than NAV with no apparent pattern.

Answer: B Difficulty: Difficult

Rationale: Open-end funds are redeemable on demand at NAV so they should never sell for less than NAV. However, loads and commissions can increase the price above NAV.

12. Which of the following statements about Real Estate Investment Trusts is **true**?
- A) REITS invest in real estate or loans secured by real estate.
  - B) REITS raise capital by borrowing from banks and issuing mortgages.
  - C) REITS are similar to open-end funds, with shares redeemable at NAV.
  - D) All of the above are true.
  - E) Both A and B are true.

Answer: E Difficulty: Moderate

Rationale: Real Estate Investment Trusts invest in real estate or real-estate-secured loans. They may raise capital from banks and by issuing mortgages. They are similar to closed-end funds and shares are typically exchange traded.

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13. In 2001 the proportion of mutual funds specializing in common stocks was
- A) 21.7%
  - B) 28.0%
  - C) 49.0%
  - D) 73.4%
  - E) 63.5%

Answer: C Difficulty: Moderate

Rationale: See Table 4.1, page 114.

14. Management fees and other expenses of mutual funds may include
- A) front-end loads.
  - B) back-end loads.
  - C) 12b-1 charges.
  - D) A and B only.
  - E) A, B and C.

Answer: E Difficulty: Easy

Rationale: All of the listed expenses may be included in the cost of owning a mutual fund.

15. The Profitability Fund had NAV per share of \$17.50 on January 1, 2003. On December 31 of the same year the fund's NAV was \$19.47. Income distributions were \$0.75 and the fund had capital gain distributions of \$1.00. Without considering taxes and transactions costs, what rate of return did an investor receive on the Profitability fund last year?
- A) 11.26%
  - B) 15.54%
  - C) 16.97%
  - D) 21.26%
  - E) 9.83%

Answer: D Difficulty: Moderate

Rationale:  $R = (\$19.47 - 17.50 + .75 + 1.00) / \$17.50 = 21.26\%$

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16. Investors' Choice Fund had NAV per share of \$37.25 on January 1, 2003. On December 31 of the same year the fund's rate of return for the year was 17.3%. Income distributions were \$1.14 and the fund had capital gain distributions of \$1.35. Without considering taxes and transactions costs, what ending NAV would you calculate for Investors' Choice?
- A) \$41.20
  - B) \$33.88
  - C) \$43.69
  - D) \$42.03
  - E) \$46.62

Answer: A Difficulty: Moderate

Rationale:  $.173 = (P - \$37.25 + 1.14 + 1.35) / \$37.25$ ;  $P = \$41.20$

17. Which of the following is **not** an advantage of mutual funds?
- A) They offer a variety of investment styles.
  - B) They offer small investors the benefits of diversification.
  - C) They treat income as "passed through" to the investor for tax purposes.
  - D) A, B and C are all advantages of mutual funds.
  - E) Neither A nor B nor C are advantages of mutual funds.

Answer: C Difficulty: Easy

Rationale: A disadvantage of mutual funds is that investment income is passed through for tax purposes and investors may therefore lose the ability to engage in tax management.

18. Which of the following would increase the net asset value of a mutual fund share, assuming all other things remain unchanged?
- A) an increase in the number of fund shares outstanding
  - B) an increase in the fund's accounts payable
  - C) a change in the fund's management
  - D) an increase in the value of one of the fund's stocks
  - E) a decrease in the fund's 12b-1 fee

Answer: D Difficulty: Easy

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19. Which of the following characteristics apply to unit investment trusts?

- I) Most are invested in fixed-income portfolios.
- II) They are actively managed portfolios.
- III) The sponsor pools securities, then sells public shares in the trust.
- IV) The portfolio is fixed for the life of the fund.

- A) I and IV
- B) I and II
- C) I, III, and IV
- D) I, II, and III
- E) I, II, III, and IV

Answer: C Difficulty: Moderate

20. Jargon Rapid Growth is a mutual fund that has traditionally accepted funds from new investors and issued new shares at net asset value. Jeremy Jargon manages the fund himself and has become concerned that its level of assets has become too high for his management abilities. He issues a statement that Jargon will no longer accept funds from new investors, but will continue to accept additional investments from current shareholders. Which of the following is true about Jargon Rapid Growth fund?

- A) Jargon used to be an open-end fund but has now become a closed-end fund.
- B) Jargon has always been an open-end fund and will remain an open-end fund.
- C) Jargon has always been a closed-end fund and will remain a closed-end fund.
- D) Jargon is an open-end fund but would change to a closed-end fund if it wouldn't accept additional funds from current investors.
- E) Jargon is violating SEC policy by refusing to accept new investors.

Answer: B Difficulty: Moderate

21. As of December 31, 2001, which class of mutual funds had the largest amount of assets invested?

- A) stock funds
- B) bond funds
- C) mixed asset classes such as asset allocation funds
- D) money market funds
- E) global funds

Answer: A Difficulty: Easy

Rationale: See Table 4.1, page 114.

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22. Commingled funds are
- A) amounts invested in equity and fixed-income mutual funds.
  - B) funds that may be purchased at intervals of 3, 6, or 12 month intervals at the discretion of management.
  - C) amounts invested in domestic and global equities.
  - D) closed-end funds that may be repurchased only once every two years at the discretion of mutual fund management.
  - E) partnerships of investors that pool their funds, which are then managed for a fee.

Answer: E Difficulty: Easy

23. Which of the following is **true** regarding equity mutual funds:
- I) They invest primarily in stock.
  - II) They may hold fixed-income securities as well as stock.
  - III) Most hold money market securities as well as stock.
  - IV) Two types of equity funds are income funds and growth funds.
- A) I and IV
  - B) I, III, and IV
  - C) I, II, and IV
  - D) I, II, and III
  - E) I, II, III, and IV

Answer: E Difficulty: Moderate

24. Arrangements such as Charles Schwab's "OneSource" program and Fidelity's "FundsNetwork" are examples of
- A) integrated investing.
  - B) financial supermarkets.
  - C) electronic trading networks.
  - D) on-line brokerage firms.
  - E) new programs allowed by the SEC but frowned upon by the organized exchanges.

Answer: B Difficulty: Moderate



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25. The fee that mutual funds use to help pay for advertising and promotional literature is called a
- A) front-end load fee.
  - B) back-end load fee.
  - C) operating expense fee.
  - D) 12b-1 fee.
  - E) structured fee.

Answer: D Difficulty: Easy

26. Patty O'Furniture purchased 100 shares of Green Isle mutual fund at a net asset value of \$42 per share. During the year Patty received dividend income distributions of \$2.00 per share and capital gains distributions of \$4.30 per share. At the end of the year the shares had a net asset value of \$40 per share. What was Patty's rate of return on this investment?
- A) 5.43%
  - B) 10.24%
  - C) 7.19%
  - D) 12.44%
  - E) 9.18%

Answer: B Difficulty: Moderate

Rationale:  $R = (\$40 - 42 + 2 + 4.3) / \$42 = 10.238\%$

27. Assume that you purchased 200 shares of Super Performing mutual fund at a net asset value of \$21 per share. During the year you received dividend income distributions of \$1.50 per share and capital gains distributions of \$2.85 per share. At the end of the year the shares had a net asset value of \$23 per share. What was your rate of return on this investment?
- A) 30.24%
  - B) 25.37%
  - C) 27.19%
  - D) 22.44%
  - E) 29.18%

Answer: A Difficulty: Moderate

Rationale:  $R = (\$23 - 21 + 1.5 + 2.85) / \$21 = 30.238\%$

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28. Assume that you purchased shares of High Flying mutual fund at a net asset value of \$12.50 per share. During the year you received dividend income distributions of \$0.78 per share and capital gains distributions of \$1.67 per share. At the end of the year the shares had a net asset value of \$13.87 per share. What was your rate of return on this investment?
- A) 29.43%
  - B) 30.56%
  - C) 31.19%
  - D) 32.44%
  - E) 29.18%

Answer: B Difficulty: Moderate

Rationale:  $R = (\$13.87 - \$12.50 + \$0.78 + \$1.67) / \$12.50 = 30.56\%$

29. Assume that you purchased shares of a mutual fund at a net asset value of \$14.50 per share. During the year you received dividend income distributions of \$0.27 per share and capital gains distributions of \$0.65 per share. At the end of the year the shares had a net asset value of \$13.74 per share. What was your rate of return on this investment?
- A) 2.91%
  - B) 3.07%
  - C) 1.10%
  - D) 1.78%
  - E) 1.18%

Answer: C Difficulty: Moderate

Rationale:  $R = (\$13.74 - \$14.50 + \$0.27 + \$0.65) / \$14.50 = 1.103\%$

30. Assume that you purchased shares of a mutual fund at a net asset value of \$10.00 per share. During the year you received dividend income distributions of \$0.05 per share and capital gains distributions of \$0.06 per share. At the end of the year the shares had a net asset value of \$8.16 per share. What was your rate of return on this investment?
- A) -18.24%
  - B) -16.1%
  - C) 16.10%
  - D) -17.3%
  - E) 17.3%

Answer: D Difficulty: Moderate

Rationale:  $R = (\$8.16 - \$10.00 + \$0.05 + \$0.06) / \$10.00 = -17.3\%$

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31. A mutual fund had year-end assets of \$560,000,000 and liabilities of \$26,000,000. There were 23,850,000 shares in the fund at year end. What was the mutual fund's Net Asset Value?
- A) \$22.87
  - B) \$22.39
  - C) \$22.24
  - D) \$17.61
  - E) \$19.25

Answer: B Difficulty: Moderate

Rationale:  $(560,000,000 - 26,000,000) / 23,850,000 = \$22.389$

32. A mutual fund had year-end assets of \$250,000,000 and liabilities of \$4,000,000. There were 3,750,000 shares in the fund at year-end. What was the mutual fund's Net Asset Value?
- A) \$92.53
  - B) \$67.39
  - C) \$63.24
  - D) \$65.60
  - E) \$17.46

Answer: D Difficulty: Moderate

Rationale:  $(250,000,000 - 4,000,000) / 3,750,000 = \$65.60$

33. A mutual fund had year-end assets of \$700,000,000 and liabilities of \$7,000,000. There were 40,150,000 shares in the fund at year-end. What was the mutual fund's Net Asset Value?
- A) \$9.63
  - B) \$57.71
  - C) \$16.42
  - D) \$17.87
  - E) \$17.26

Answer: E Difficulty: Moderate

Rationale:  $(700,000,000 - 7,000,000) / 40,150,000 = \$17.26$

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34. A mutual fund had year-end assets of \$465,000,000 and liabilities of \$37,000,000. If the fund NAV was \$56.12, how many shares must have been held in the fund?
- A) 4,300,000
  - B) 6,488,372
  - C) 8,601,709
  - D) 7,626,515
  - E) None of the above.

Answer: D Difficulty: Moderate

Rationale:  $(\$465,000,000 - \$37,000,000) / \$56.12 = 7,626,515$ .

35. A mutual fund had year-end assets of \$521,000,000 and liabilities of \$63,000,000. If the fund NAV was \$26.12, how many shares must have been held in the fund?
- A) 17,534,456
  - B) 16,488,372
  - C) 18,601,742
  - D) 17,542,515
  - E) None of the above.

Answer: A Difficulty: Moderate

Rationale:  $(\$521,000,000 - \$63,000,000) / \$26.12 = 17,534,456$ .

36. A mutual fund had year-end assets of \$327,000,000 and liabilities of \$46,000,000. If the fund NAV was \$30.48, how many shares must have been held in the fund?
- A) 11,354,751
  - B) 8,412,642
  - C) 10,165,476
  - D) 9,165,414
  - E) 9,219,160

Answer: E Difficulty: Moderate

Rationale:  $(\$327,000,000 - \$46,000,000) / \$30.48 = 9,219,160$ .

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37. A mutual fund had NAV per share of \$19.00 on January 1, 2003. On December 31 of the same year the fund's NAV was \$19.14. Income distributions were \$0.57 and the fund had capital gain distributions of \$1.12. Without considering taxes and transactions costs, what rate of return did an investor receive on the fund last year?
- A) 11.26%
  - B) 10.54%
  - C) 7.97%
  - D) 8.26%
  - E) 9.63%

Answer: E Difficulty: Moderate

Rationale:  $R = (\$19.14 - 19.00 + .57 + 1.12) / \$19.00 = 9.63\%$

38. A mutual fund had NAV per share of \$26.25 on January 1, 2003. On December 31 of the same year the fund's rate of return for the year was 16.4%. Income distributions were \$1.27 and the fund had capital gain distributions of \$1.85. Without considering taxes and transactions costs, what ending NAV would you calculate?
- A) \$27.44
  - B) \$33.88
  - C) \$24.69
  - D) \$42.03
  - E) \$16.62

Answer: A Difficulty: Moderate

Rationale:  $.164 = (P - \$26.25 + 1.27 + 1.85) / \$26.25$ ;  $P = \$27.435$

39. A mutual fund had NAV per share of \$16.75 on January 1, 2003. On December 31 of the same year the fund's rate of return for the year was 26.6%. Income distributions were \$1.79 and the fund had capital gain distributions of \$2.80. Without considering taxes and transactions costs, what ending NAV would you calculate?
- A) \$17.44
  - B) \$13.28
  - C) \$14.96
  - D) \$17.25
  - E) \$16.62

Answer: E Difficulty: Moderate

Rationale:  $.266 = (P - \$16.75 + 1.79 + 2.80) / \$16.75$ ;  $P = \$16.615$

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40. A mutual fund had NAV per share of \$36.15 on January 1, 2003. On December 31 of the same year the fund's rate of return for the year was 14.0%. Income distributions were \$1.16 and the fund had capital gain distributions of \$2.12. Without considering taxes and transactions costs, what ending NAV would you calculate?
- A) \$37.93
  - B) \$34.52
  - C) \$44.69
  - D) \$47.25
  - E) \$36.28

Answer: A Difficulty: Moderate

Rationale:  $.14 = (P - \$36.15 + 1.16 + 2.12) / \$36.15$ ;  $P = \$37.931$

41. Differences between hedge funds and mutual funds are that
- A) hedge funds are not registered as mutual funds and are not subject to SEC regulation.
  - B) hedge funds are typically open only to wealthy or institutional investors.
  - C) hedge funds managers can pursue strategies not available to mutual funds such as short selling, heavy use of derivatives, and leverage.
  - D) hedge funds attempt to exploit temporary misalignments in security valuations.
  - E) all of the above

Answer: E Difficulty: Moderate

42. Of the following types of mutual funds, an investor that wishes to invest in a diversified portfolio of stocks worldwide (including the U.S.) should choose
- A) international funds.
  - B) global funds.
  - C) regional funds.
  - D) emerging market funds.
  - E) none of the above.

Answer: B Difficulty: Moderate

43. Of the following types of mutual funds, an investor that wishes to invest in a diversified portfolio of foreign stocks (excluding the U.S.) should choose
- A) International funds
  - B) Global funds
  - C) Regional funds
  - D) Emerging market funds
  - E) None of the above

Answer: A Difficulty: Moderate

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44. Of the following types of EFTs, an investor that wishes to invest in a diversified portfolio that tracks the S&P 500 should choose
- A) SPY.
  - B) DIA.
  - C) QQQ.
  - D) IWM.
  - E) VTI.

Answer: A Difficulty: Moderate

45. Of the following types of EFTs, an investor that wishes to invest in a diversified portfolio that tracks the Dow Jones Industrials should choose
- A) SPY.
  - B) DIA.
  - C) QQQ.
  - D) IWM.
  - E) VTI.

Answer: B Difficulty: Moderate

46. Of the following types of EFTs, an investor that wishes to invest in a diversified portfolio that tracks the Nasdaq 100 should choose
- A) SPY.
  - B) DIA.
  - C) QQQ.
  - D) IWM.
  - E) VTI.

Answer: C Difficulty: Moderate

47. Of the following types of EFTs, an investor that wishes to invest in a diversified portfolio that tracks the Russell 2000 should choose
- A) SPY.
  - B) DIA.
  - C) QQQ.
  - D) IWM.
  - E) VTI.

Answer: D Difficulty: Moderate

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48. Of the following types of EFTs, an investor that wishes to invest in a diversified portfolio that tracks the Wilshire 5000 should choose
- A) SPY.
  - B) DIA.
  - C) QQQ.
  - D) IWM.
  - E) VTI.

Answer: E Difficulty: Moderate

49. A mutual funds had average daily assets of \$3.0 billion in 2003. The fund sold \$600 million worth of stock and purchased \$700 million worth of stock during the year. The funds turnover ratio is \_\_\_\_.
- A) 27.5%
  - B) 12%
  - C) 15%
  - D) 25%
  - E) 20%

Answer: E Difficulty: Moderate

Rationale:  $600,000,000 / 3,000,000,000 = 20\%$

50. A mutual funds had average daily assets of \$2.0 billion on 2003. The fund sold \$500 million worth of stock and purchased \$600 million worth of stock during the year. The funds turnover ratio is \_\_\_\_.
- A) 27.5%
  - B) 12%
  - C) 15%
  - D) 25%
  - E) 20%

Answer: D Difficulty: Moderate

Rationale:  $500,000,000 / 2,000,000,000 = 25\%$



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51. A mutual funds had average daily assets of \$4.0 billion on 2003. The fund sold \$1.5 billion worth of stock and purchased \$1.6 billion worth of stock during the year. The funds turnover ratio is \_\_\_\_.
- A) 37.5%
  - B) 22%
  - C) 15%
  - D) 45%
  - E) 20%

Answer: A Difficulty: Moderate

Rationale:  $1,500,000,000 / 4,000,000,000 = 37.5\%$

52. You purchased shares of a mutual fund at a price of \$20 per share at the beginning of the year and paid a front-end load of 5.75%. If the securities in which the fund invested increased in value by 11% during the year, and the funds expense ratio was 1.25%, your return if you sold the fund at the end of the year would be \_\_\_\_.
- A) 4.33
  - B) 3.44
  - C) 2.45
  - D) 6.87
  - E) None of the above

Answer: B Difficulty: Difficult

Rationale:  $/ \$20 = 3.44\%$

53. You purchased shares of a mutual fund at a price of \$12 per share at the beginning of the year and paid a front-end load of 4.75%. If the securities in which the fund invested increased in value by 9% during the year, and the funds expense ratio was 1.5%, your return if you sold the fund at the end of the year would be \_\_\_\_.
- A) 4.75
  - B) 3.54
  - C) 2.65
  - D) 2.39
  - E) None of the above

Answer: D Difficulty: Difficult

Rationale:  $[\$17 \times .95 \times (1.12 - .01)] - \$17 / \$12 = 2.39\%$

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54. You purchased shares of a mutual fund at a price of \$17 per share at the beginning of the year and paid a front-end load of 5.0%. If the securities in which the fund invested increased in value by 12% during the year, and the fund's expense ratio was 1.0%, your return if you sold the fund at the end of the year would be \_\_\_\_.
- A) 4.75
  - B) 5.45
  - C) 5.65
  - D) 4.39
  - E) None of the above

Answer: B Difficulty: Difficult

Rationale:  $/ \$17 = 5.45\%$

### Short Answer Questions

55. List and describe the more important types of mutual funds according to their investment policy and use.

Answer: Some of the more important fund types, classified by investment policy, are:

**Money Market Funds** - These funds invest in money market securities. They usually offer check-writing features and NAV is fixed at \$1 per share, so that there are no tax implications associated with redemption of shares. They provide low risk, relatively low return and high liquidity.

**Equity Funds** - These funds invest primarily in stock, although they may hold other types of securities at the manager's discretion. They may also hold some money market securities to provide liquidity for share redemption. Typical objectives are capital gain, growth, growth and income, income, and income and security.

**Fixed-Income Funds** - These funds specialize in fixed-income securities such as corporate bonds, Treasury bonds, mortgage-backed securities or municipal bonds. These funds may specialize by maturity or credit risk as well.

**Balanced and Income Funds** - These funds may substitute for an investor's entire portfolio. They hold a mix of fixed-income and equity securities. Income funds try to maintain safety of principal but achieve liberal current income, while balanced funds seek to minimize risk.

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**Asset Allocation Funds** - These funds also hold both stocks and bonds, but vary the proportions in accord with the portfolio manager's forecast of the relative performance of each sector. These funds are engaged in market timing and are therefore higher risk.

**Index Funds** - These funds try to match the performance of a broad market index. They buy shares in securities included in a particular index in proportion to the security's representation in that index. Index funds are a low-cost way for small investors to pursue a passive investment strategy.

**Specialized Sector Funds** - These funds concentrate on a particular industry or industries. Held alone, they are not well diversified and may be higher risk.

The question is designed to test the student's knowledge of the various types of funds available and their suitability for different needs.

Difficulty: Moderate

56. Discuss the taxation of mutual fund income.

Answer: Investment returns of mutual funds are granted "pass-through status" under the U.S. tax code, meaning that taxes are paid only by the investor in the mutual fund, not by the fund itself. The income is treated as passed through to the investor as long as all income is distributed to shareholders.

Investors will pay taxes at the appropriate rate depending on the type of income. One drawback is that investors cannot time the sale of securities for maximum tax advantage, unless the funds are held in tax-deferred retirement accounts.

The purpose of the question is to determine whether students understand the tax differences of owning mutual funds as compared to individual investments.

Difficulty: Difficult

## Chapter 4 Mutual Funds and Other Investment Companies

57. What is an Exchange-traded fund? Give two examples of specific ETFs. What are some advantages they have over ordinary open-end mutual funds? What are some disadvantages?

Answer: ETFs allow investors to trade index portfolios. Some examples are spiders (SPDR), which track the S&P500 index, diamonds (DIA), which track the Dow Jones Industrial Average, and qubes (QQQ), which track the NASDAQ 100 index. Other examples are listed in Table 4-3, page 117. (It is anticipated that there may soon be ETFs that track actively managed funds as well as the current ones that track indexes.)

### **Advantages -**

1. ETFs may be bought and sold during the trading day at prices that reflect the current value of the underlying index. This is different from ordinary open-end mutual funds, which are bought or sold only at the end of the day NAV.
2. ETFs can be sold short.
3. ETFs can be purchased on margin.
4. ETFs may have tax advantages. Managers are not forced to sell securities from a portfolio to meet redemption demands, as they would be with open-end funds. Small investors simply sell their ETF shares to other traders without affecting the composition of the underlying portfolio. Institutional investors who want to sell their shares receive shares of stock in the underlying portfolio.
5. ETFs may be cheaper to buy than mutual funds because they are purchased from brokers. The fund doesn't have to incur the costs of marketing itself, so the investor incurs lower management fees.

### **Disadvantages -**

1. ETF prices can differ from NAV by small amounts because of the way they trade. This can lead to arbitrage opportunities for large traders.
2. ETFs must be purchased from brokers for a fee. This makes them more expensive than mutual funds that can be purchased at NAV.

Difficulty: Difficult

## Chapter 4 Mutual Funds and Other Investment Companies

58. Discuss the consistency of mutual fund performance results, as studied by Goetzmann and Ibbotson (1994) and Malkiel (1995).

Answer: Goetzmann and Ibbotson found that, of mutual funds that performed in the top half of their categories during an initial period, 62% remained “winners” during the subsequent two-year period. The other 38% became “losers”. Of the funds that performed in the bottom half of their categories during the initial period, 63.4% remained “losers” in the subsequent two-year period, while 36.6% became “winners”. If performance were purely random, the percentages would be 50%. If performance were due entirely to the skill of the managers, all winners should remain winners and all losers should remain losers. The results of the study indicate that there seems to be some skill involved in fund performance trends.

Malkiel broke his study into two time periods. For the 1970s he found results similar to Goetzmann and Ibbotson. For the 1980s his percentages were much closer to 50%, which indicates that performance seemed to be more random during this period. Malkiel used one-year returns rather than two-year returns.

Difficulty: Moderate