CHAPTER 2
ASSET CLASSES AND FINANCIAL INSTRUMENTS

1. Common stock is an ownership share in a publicly held corporation. Common shareholders have voting rights and may receive dividends. Preferred stock represents nonvoting shares in a corporation, usually paying a fixed stream of dividends. While corporate bonds are long-term debt by corporations, typically paying semi-annual coupons and returning the face value of the bond at maturity.

2. While the DJIA has 30 large corporations in the index, it does not represent the overall market nearly as well as the 500 stocks contained in The Wilshire index. The DJIA is simply too small.

3. They are short term, very safe, and highly liquid. Also, their unit value almost never changes.

4. Treasury bills, certificates of deposit, commercial paper, bankers' acceptances, Eurodollars, repos, reserves, federal funds and brokers' calls.

5. American Depository Receipts, or ADRs, are certificates traded in U.S. markets that represent ownership in shares of a foreign company. Investors may also purchase shares of foreign companies on foreign exchanges. Lastly, investors may use international mutual funds to own shares indirectly.

6. Because they produce coupons that are tax free.

7. The fed funds rate is simply the rate of interest on very short-term loans among financial institutions. The London Interbank Offer Rate (LIBOR) is the rate at which large banks in London are willing to lend money among themselves.

8. General obligation bonds are backed by the local governments, while revenue bonds have proceeds attached to specific projects. A revenue bond has less guarantees, therefore, it is riskier and will have a higher yield.

9. Corporations may exclude 70% of dividends received from domestic corporations in the computation of their taxable income.

10. Limited liability means that the most shareholders can lose in event of the failure of the corporation is their original investment.

11. Money market securities are referred to as "cash equivalents" because of their great liquidity. The prices of money market securities are very stable, and they can be converted to cash (i.e., sold) on very short notice and with very low transaction costs.

12. Taxable equivalent yield = .0675 / (1-.35) = .1038

13.
    a. The taxable bond. With a zero tax bracket, the after-tax yield for the taxable bond is the same as the before-tax yield (5%), which is greater than the yield on the municipal bond.

    b. The taxable bond. The after-tax yield for the taxable bond is:
    0.05 x (1 – 0.10) = 4.5%

    c. You are indifferent. The after-tax yield for the taxable bond is:
    0.05 x (1 – 0.20) = 4.0%
    The after-tax yield is the same as that of the municipal bond.

    d. The municipal bond offers the higher after-tax yield for investors in tax brackets above 20%.

14. The after-tax yield on the corporate bonds is: [0.09 x (1 – 0.30)] = 0.0630 = 6.30%. Therefore, the municipals must offer at least 6.30% yields.

15. The equivalent taxable yield (r) is: r = rm/(1 – t)
    a. 4.00%
    b. 4.44%
    c. 5.00%
    d. 5.71%

16.
    a. You would have to pay the asked price of:
    107:27 = 107.8438% of par = $1,078.438

    b. The coupon rate is 4.875%, implying coupon payments of $48.75 annually or, more precisely, $24.375 semiannually.

    c. Current yield = Annual coupon income/price =
    4.875/107.8438= 0.0452 = 4.52%

17.

a. The closing price today is $74.92, which is $1.82 below yesterday's price. Therefore, yesterday's closing price was: $74.92 + $1.82 = $76.74

b. You could buy: $5,000/$74.92 = 66.74 shares

c. Your annual dividend income would be 1.90 % of $5,000, or $95.

d. Earnings per share can be derived from the price-earnings (PE) ratio. Price/Earnings = 13 and Price = $74.92 so that Earnings = $74.92/13 = $5.7631

18.

a. At t = 0, the value of the index is: (90 + 50 + 100)/3 = 80
At t = 1, the value of the index is: (95 + 45 + 110)/3 = 83.3333
The rate of return is: (83.3333/80) – 1 = 4.167%

b. In the absence of a split, stock C would sell for 110, and the value of the index would be: (95 + 45 + 110)/3 = 83.3333

After the split, stock C sells at 55. Therefore, we need to set the divisor (d) such that:

83.3333 = (95 + 45 + 55)/d…..d = 2.340

c. The rate of return is zero. The index remains unchanged, as it should, since the return on each stock separately equals zero.

19.

a. Total market value at t = 0 is: (9,000 + 10,000 + 20,000) = 39,000
Total market value at t = 1 is: (9,500 + 9,000 + 22,000) = 40,500
Rate of return = (40,500/39,000) – 1 = 3.85%

b. The return on each stock is as follows:

R_a = (95/90) – 1 = 0.0556
R_b = (45/50) – 1 = –0.10
R_c = (110/100) – 1 = 0.10
The equally-weighted average is: [0.0556 + (-0.10) + 0.10]/3 = 0.0185 = 1.85%

20. The fund would require constant readjustment since every change in the price of a stock would bring the fund asset allocation out of balance.

21. In this case, the value of the divisor will increase by an amount necessary to maintain the index value on the day of the change. If the index was comprised of only one stock, it would increase by 19 points. (60 – 3) / 3 = 19

22.

Price
3.4% x (87/360) = 0.8217% or a $ price of $10,000 x (1-.008217) = $9,917.83

Equivalent Yield
(10,000-9,917.83)/(9,917.83 x 365/87) = 3.475 %

23.

a. The higher coupon bond
b. The call with the lower exercise price
c. The put on the lower priced stock

24.

a. The December maturity futures price is $5.1175 per bushel. If the contract closes at $5.25 per bushel in December, your profit / loss on each contract (for delivery of 5,000 bushels of corn) will be: ($5.25 - $5.1175) x 5000 = $ 662.50 gain.

b. There are 114.099 contracts outstanding, representing 570,495,000 bushels of corn.

25.

a. Yes. As long as the stock price at expiration exceeds the exercise price, it makes sense to exercise the call.
   Gross profit is: $111 - $ 105 = $6
   Net profit = $6 – $ 22.40 = $16.40 loss
   Rate of return = -16.40 / 22.40 = - .7321 or 73.21% loss

b. Yes, exercise.
   Gross profit is: $111 - $ 100 = $11
   Net profit = $11 – $ 25.10 = $14.10 loss
   Rate of return = -14.10 / 25.10 = 0.5618 or 56.18 % loss

c. A put with exercise price $105 would expire worthless for any stock price equal to or greater than $105. An investor in such a put would have a rate of return over the holding period of –100%.

26.

a. Long call
b. Long put
c. Short put
d. Short call

27. There is always a chance that the option will expire in the money. Investors will pay something for this chance of a positive payoff.

28.

	Value of call at expiration	Initial Cost	Profit
a.	0	4	-4
b.	0	4	-4
c.	0	4	-4
d.	5	4	1
e.	10	4	6

	Value of put at expiration	Initial Cost	Profit
a.	10	6	4
b.	5	6	-1
c.	0	6	-6
d.	0	6	-6
e.	0	6	-6

29. The spread will widen. Deterioration of the economy increases credit risk, that is, the likelihood of default. Investors will demand a greater premium on debt securities subject to default risk.

30. Eleven stocks have a 52 week high at least 150% above the 52 week low. Individual stocks are much more volatile than a group of stocks.

31. The total before-tax income is $4. After the 70% exclusion, taxable income is:

0.30 x $4 = $1.20

Therefore:

Taxes = 0.30 x $1.20 = $0.36

After-tax income = $4 – $0.36 = $3.64

After-tax rate of return = $3.64 / $40 = 9.10%

32. A put option conveys the right to sell the underlying asset at the exercise price. A short position in a futures contract carries an obligation to sell the underlying asset at the futures price.

33. A call option conveys the right to buy the underlying asset at the exercise price. A long position in a futures contract carries an obligation to buy the underlying asset at the futures price.

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Answer: c