

Chapter 1

7.

a. The bank loan is a financial liability for Lanni. (Lanni's IOU is the bank's financial asset). The cash Lanni receives is a financial asset. The new financial asset created is Lanni's promissory note (that is, Lanni's IOU to the bank).

b. Lanni transfers financial assets (cash) to the software developers. In return, Lanni gets a real asset, the completed software. No financial assets are created or destroyed; cash is simply transferred from one party to another.

c. Lanni gives the real asset (the software) to Microsoft in exchange for a financial asset, 1,500 shares of stock in Microsoft. If Microsoft issues new shares in order to pay Lanni, then this would represent the creation of new financial assets.

d. Lanni exchanges one financial asset (1,500 shares of stock) for another (\$120,000). Lanni gives a financial asset (\$50,000 cash) to the bank and gets back another financial asset (its IOU). The loan is "destroyed" in the transaction, since it is retired when paid off and no longer exists.

10. a. Primary-market transaction

b. Derivative assets

c. Investors who wish to hold gold without the complication and cost of physical storage.

14. Treasury bills serve a purpose for investors who prefer a low-risk investment. The lower average rate of return compared to stocks is the price investors pay for predictability of investment performance and portfolio value.

Chapter 2

2. Money market securities are called "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.

3. (a) A repurchase agreement is an agreement whereby the seller of a security agrees to "repurchase" it from the buyer on an agreed upon date at an agreed upon price. Repos are typically used by securities dealers as a means for obtaining funds to purchase securities.

5.

	Corp. Bonds	Preferred Stock	Common Stock
Voting Rights (Typically)			Yes
Contractual Obligation	Yes		
Perpetual Payments		Yes	Yes
Accumulated Dividends		Yes	
Fixed Payments (Typically)	Yes	Yes	
Payment Preference	First	Second	Third

11. a. At $t = 0$, the value of the index is: $(90 + 50 + 100)/3 = 80$
 At $t = 1$, the value of the index is: $(95 + 45 + 110)/3 = 83.333$
 The rate of return is: $(83.333/80) - 1 = 4.17\%$
12. 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:
 $[0.0556 + (-0.10) + 0.10]/3 = 0.0185 = 1.85\%$
17. a. You bought the contract when the futures price was \$3.835 (see Figure 2.10). The contract closes at a price of \$3.875, which is \$0.04 more than the original futures price. The contract multiplier is 5000. Therefore, the gain will be: $\$0.04 \times 5000 = \200.00
- b. Open interest is 177,561 contracts.
22. 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.

Chapter 3

4. (a) A market order is an order to execute the trade immediately at the best possible price. The emphasis in a market order is the speed of execution (the reduction of execution uncertainty). The disadvantage of a market order is that the price it will be executed at is not known ahead of time; it thus has price uncertainty.

7. a. The initial margin was: $0.50 \times 1,000 \times \$40 = \$20,000$

As a result of the increase in the stock price Old Economy Traders loses: $\$10 \times 1,000 = \$10,000$

Therefore, margin decreases by \$10,000. Moreover, Old Economy Traders must pay the dividend of \$2 per share to the lender of the shares, so that the margin in the account decreases by an additional \$2,000. Therefore, the remaining margin is: $\$20,000 - \$10,000 - \$2,000 = \$8,000$

b. The percentage margin is: $\$8,000/\$50,000 = 0.16 = 16\%$ So there will be a margin call.

c. The equity in the account decreased from \$20,000 to \$8,000 in one year, for a rate of return of: $(-\$12,000/\$20,000) = -0.60 = -60\%$

9. a. You buy 200 shares of Telecom for \$10,000. These shares increase in value by

10%, or \$1,000. You pay interest of: $0.08 \times \$5,000 = \400

The rate of return will be: $(\$1,000 - \$400)/\$5,000 = 0.12 = 12\%$

b. The value of the 200 shares is $200P$. Equity is $(200P - \$5,000)$. You will receive a margin call when:

$$(200P - \$5,000) / 200P = 0.30 \Rightarrow \text{when } P = \$35.71 \text{ or lower}$$

14. a. \$55.50

b. \$55.25

c. The trade will not be executed because the bid price is lower than the price specified in the limit sell order.

d. The trade will not be executed because the asked price is greater than the price specified in the limit buy order.

15. a. In an exchange market, there can be price improvement in the two market orders.

Brokers for each of the market orders (i.e., the buy order and the sell order) can agree to execute a trade inside the quoted spread. For example, they can trade at \$55.37, thus improving the price for both customers by \$0.12 or \$0.13 relative to the quoted bid and asked prices. The buyer gets the stock for \$0.13 less than the quoted asked price, and the seller receives \$0.12 more for the stock than the quoted bid price.

b. Whereas the limit order to buy at \$55.37 would not be executed in a dealer market (since the asked price is \$55.50), it could be executed in an exchange market. A broker for another customer with an order to sell at market would view the limit buy order as the best bid price; the two brokers could agree to the trade and bring it to the specialist, who would then execute the trade.

16. a. You will not receive a margin call. You borrowed \$20,000 and with another \$20,000 of your own equity you bought 1,000 shares of Disney at \$40 per share. At \$35 per share, the market value of the stock is \$35,000, your equity is \$15,000, and the percentage margin is: $\$15,000/\$35,000 = 42.9\%$

Your percentage margin exceeds the required maintenance margin.

b. You will receive a margin call when: $(1000P - 20,000)/1000P = 0.35 \Rightarrow$ when $P = \$30.77$ or lower

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2. (d) The broker will sell, at current market price, after the first transaction at \$55 or less

3. (d)

Chapter 5

3. The true statements are (c) and (e). The explanations follow.

Statement (c): Let σ = the annual standard deviation of the risky investments and σ_1 = the standard deviation of the first investment alternative over the two-year period. Then:

$$\sigma_1 = \sqrt{2} \times \sigma$$

Therefore, the annualized standard deviation for the first investment alternative is equal to:

$$\frac{\sigma_1}{2} = \frac{\sigma}{\sqrt{2}} < \sigma$$

Statement (e): The first investment alternative is more attractive to investors with lower degrees of risk aversion. The first alternative (entailing a sequence of two identically distributed and uncorrelated risky investments) is riskier than the second alternative (the risky investment followed by a risk-free investment). Therefore, the first alternative is more attractive to investors with lower degrees of risk aversion. Notice, however, that if you mistakenly believed that 'time diversification' can reduce the total risk of a sequence of risky investments, you would have been tempted to conclude that the first alternative is less risky and therefore more attractive to more risk-averse investors. This is clearly not the case; the two-year standard deviation of the first alternative is greater than the two-year standard deviation of the second alternative.

7. $E(r) = [0.35 \times 44.5\%] + [0.30 \times 14.0\%] + [0.35 \times (-16.5\%)] = 14\%$

$$\sigma^2 = [0.35 \times (44.5 - 14)^2] + [0.30 \times (14 - 14)^2] + [0.35 \times (-16.5 - 14)^2] = 651.175$$

$$\sigma = 25.52\%$$

The mean is unchanged, but the standard deviation has increased, as the probabilities of the high and low returns have increased.

14. From Table 5.2, the average real rate on T-bills has been: 0.70%

a. T-bills: 0.70% real rate + 3% inflation = 3.70%

b. Expected return on large stocks:

$$3.70\% \text{ T-bill rate} + 8.40\% \text{ historical risk premium} = 12.10\%$$

- c. The risk premium on stocks remains unchanged. A premium, the difference between two rates, is a real value, unaffected by inflation.

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1. The expected dollar return on the investment in equities is \$18,000 compared to the \$5,000 expected return for T-bills. Therefore, the expected risk premium is \$13,000.
5. $E(r) = (0.9 \times 20\%) + (0.1 \times 10\%) = 19\% \rightarrow \$1,900$ in returns