CHAPTER 11: ARBITRAGE PRICING THEORY

1. revised estimate = 15.5%

2. The expected return-beta relationship is:

$$E(r_p) = 6\% + \beta_{p1} \infty 10\% + \beta_{p2} \infty 5\%$$

3. An arbitrage opportunity would exist

4. a.

	Price	# of shares	Investment	Scenarios 1	2	3
A	\$10	–2	–20	–17	–24	–26
B	\$15	–2	–30	–37.5	–33	–27
C	\$50	+1	50	56	57.5	56
			\$0	+1.5	+.5	+3

b. The rate of return on (A + B) will go up and the rate of return on C will fall.

5. $r_f = 3\%$

6. a. The expected dollar return is \$40,000.

$\sigma = 6.71\%$

b. $\sigma = 4.24\%$ if the analyst examines 50 stocks instead of 20

$\sigma = 3\%$ if the analyst examines 100 stocks instead of 20

7 a. $\sigma^{2,A} = 881$

$\sigma^{2,B} = 500$

$\sigma^{2,C} = 976$

b. The mean will equal that of the individual (identical) stocks.

c. There is no arbitrage opportunity

8. a. Yes
   b. the coefficient of β^2 must be zero

9.

10.

11. a. E(r) = 18.1%

    b. Unexpected return from macro factors = –.3%

12. required E(r) = 16%

    The stock is overpriced.

13. b.

14. c.

15. d.

16. d.

17. (c)

18. d.

19. d.