

- (6-4) If investors' aversion to risk *increased*, would the risk premium on a high-beta stock increase by more or less than that on a low-beta stock? Explain.
- (6-5) If a company's beta were to double, would its expected return double?

be the shareholders' required rate of return if management adopts these

PROBLEMS Answers Appear in Appendix B

Problems 1-4

(6-1)
Portfolio Beta

Your investment club has only two stocks in its portfolio. \$20,000 is invested in a stock with a beta of 0.7, and \$35,000 is invested in a stock with a beta of 1.3. What is the portfolio's beta?

(6-2)
Required Rate of Return

AA Industries's stock has a beta of 0.8. The risk-free rate is 4% and the expected return on the market is 12%. What is the required rate of return on AA's stock?

(6-3)
Required Rates of Return

Suppose that the risk-free rate is 5% and that the market risk premium is 7%. What is the required return on (1) the market, (2) a stock with a beta of 1.0, and (3) a stock with a beta of 1.7? Assume that the risk-free rate is 5% and that the market risk premium is 7%.

(6-4)
Fama-French Three-Factor Model

An analyst has modeled the stock of a company using the Fama-French three-factor model. The risk-free rate is 5%, the market return is 10%, the return on the SMB portfolio (r_{SMB}) is 3.2%, and the return on the HML portfolio (r_{HML}) is 4.8%. If $a_1 = 0$, $b_1 = 1.2$, $c_1 = -0.4$, and $d_1 = 1.3$, what is the stock's predicted return?

Intermediate Problems 5-10

(6-5)
Expected Return: Discrete Distribution

A stock's return has the following distribution:

Demand for the Company's Products	Probability of This Demand Occurring	Rate of Return If This Demand Occurs (%)
Weak	0.1	-50%
Below average	0.2	-5
Average	0.4	16
Above average	0.2	25
Strong	0.1	60
	<u>1.0</u>	

Calculate the stock's expected return and standard deviation.

(6-6)
Expected Returns: Discrete Distribution

The market and Stock J have the following probability distributions: