

EXAMPLE A

	\bar{R}	σ
Large Stocks	10.7	20.3
Corporate Bonds	5.6	9.2

$$\rho = .25$$

$$R_F = 4$$

$$10.7 - 4 = Z_1(20.3)^2 + .25(20.3)(9.2)Z_2$$

$$5.6 - 4 = Z_1(.25)(20.3)(9.2) + (9.2)^2 Z_2$$

$$6.7 = 412.09Z_1 + 46.69Z_2$$

$$1.6 = 46.69Z_1 + 84.64Z_2$$

$$Z_1 = .01506$$

$$Z_2 = .010597$$

$$X_1 = 58.6974$$

$$X_2 = 41.3026$$

$$Z_1 = .0197 - .001161R_F$$

$$Z_2 = .055295 - .011175R_F$$

$$\begin{aligned} \text{Proportion stock} &= \frac{Z_1}{Z_1 + Z_2} \\ &= \frac{.0197 - .001161R_F}{.074995 - .012336R_F} \end{aligned}$$

$$Z_1 = \frac{1}{(1-\rho)\sigma_i} \left[\frac{\bar{R}_i - R_F}{\sigma_i} - C^* \right]$$

$$= \frac{1}{(1-.25)(20.3)} \left[\frac{6.7}{20.3} - C^* \right]$$

$$Z_2 = \frac{1}{(1-.25)(9.2)} \left[\frac{1.6}{9.2} - C^* \right]$$

$$C^* = \frac{.25}{1-.25+.50} \left[\frac{6.7}{20.3} + \frac{1.6}{9.2} \right]$$

$$C^* = .100792$$

$$Z_1 = .065681[.330049 - .100792]$$

$$Z_2 = .144928[.173913 - .100792]$$

$$Z_1 = .01506$$

$$Z_2 = .0106$$

