

Ch. 11 Risk and Return

Security Market Line Equation "CAPM"

$$E(R_i) = R_f + [E(R_m) - R_f] \times \beta_i \quad (11.7)$$

$$k_i = k_{RF} + (k_m - k_{RF}) \times \beta_i$$

Example using Progress Energy

beta = 0.31

$k_{RF} = R_f = 4\%$ (10yr US Treasury)

$k_m = E(R_m) = 8.96\%$ (10yr S&P 500 Ret.)

(All values as of Feb 2003)

$$E(R_i) = R_f + [E(R_m) - R_f] \times \beta_i$$

$$= 4\% + [8.96\% - 4\%] \times 0.31$$

$$= 4\% + (4.96\%) \times 0.31$$

$$= 4\% + 1.5376\%$$

$$= 5.5376\%$$

"Required Return / Yield"

Don't invest unless expected return
 \geq required return

Supporting
Info

$$E(R_i) = R_F + [E(R_M) - R_F] \times \beta_i \quad (11.7)$$

$$k_{\text{Your Co}} = k_{RF} + \underbrace{(k_M - k_{RF})}_{\text{Risk Premium of Market}} \beta_{\text{Your Co}}$$

Risk Premium
of Market

$$[\text{Risk Premium} = 4 - 8\%]$$

$R_F = k_{RF}$ - Use US Treasury Return

30 day T bills 1.10% as of 6-2-2003
10 year T bonds 3.36% "

One day, use inflation-indexed
Treasuries (not yet)

$E(R_M) = k_M$ - Use Average Market Return

S & P 500?

S & P 1500?

Wilshire?

Historical Long term Return = 14.9%

P. 302

12.7%?

Questions for You:

What time frame is relevant