Final A, Summer 2013

1. $r_{WACC} = \left(\frac{100}{100+900}\right)(.025)(1-.35) + \left(\frac{900}{100+900}\right) r_E$ (17)

$r_E = .025 + \beta_E (.06)$ (11)

$\beta_E = \frac{cov(R_E, R_{MKT})}{var(R_{MKT})}$ (5)

$cov(R_E, R_{MKT}) = \frac{1}{3}((30 - \bar{R}_E)(14 - \bar{R}_{STP}) + (-3 - \bar{R}_E)(2 - \bar{R}_{STP}) + (13 - \bar{R}_E)(19 - \bar{R}_{STP}) + (57 - \bar{R}_E)(30 - \bar{R}_{STP}))$ (15)

$\bar{R}_E = \frac{1}{4}(30 - 3 + 13 + 57)$ (8)

$\bar{R}_{STP} = \frac{1}{4}(14 + 2 + 19 + 30)$ (8)

$var(R_{STP}) = \frac{1}{3}((14 - \bar{R}_{STP})^2 + (2 - \bar{R}_{STP})^2 + (19 - \bar{R}_{STP})^2 + (30 - \bar{R}_{STP})^2)$ (11)

2. $NPV = -12 - \frac{15}{(1+r_{WACC})^1} - \left(2 - (2-3)(.35)\right)$ (8)

$+ \left(\frac{1.5}{r_{WACC} - .01}\right)\left(1 - \left(\frac{1.01}{1+r_{WACC}}\right)^{19}\right)\left(\frac{1}{1+r_{WACC}}\right)^1$

(19) (23) (14)