Quiz A for 1:00 Class: 04/24/13 Name Key

Assume that NextFlix has assets with a market value of $500 million and equity with a market value of $400 million. Its debt matures for $175 million five years from today. Set up the calculations needed to determine the beta of NextFlix's assets and debt if the beta of its equity is 1.1. Note: If you are not solving for the left hand side of the equations, state which variable you are solving for.

The return on U.S. Treasuries varies by year as follows (year = rate): 1 = 0.13%, 2 = 0.23%, 3 = 0.34%, 4 = 0.51%, 5 = 0.69%, 6 = 0.91%, 7 = 1.10%, 8 = 1.32%, 9 = 1.55%, 10 = 1.66%.

The returns on bonds with the same credit rating as NextFlix vary by year as follows (year = rate): 1 = 5%, 2 = 6%, 3 = 7%, 4 = 7.5%, 5 = 8%, 6 = 8.25%, 7 = 8.5%, 8 = 8.75%, 9 = 9%, 10 = 9.1%.

Wall Street Journal Questions are on the back of this page.

$$+2\left(400 = 500\,(N(d_1)) - PV(4)(N(d_2))\right) \quad (6)$$

$$+2\left(d_1 = \frac{\ln\left(\frac{500}{PV(4)}\right)}{\sigma\sqrt{5}} + \frac{\sigma\sqrt{5}}{2}\right) \quad (6)$$

$$+2\left(PV(4) = \frac{175}{(1.0069)^5}\right) \quad (12)$$

$$+2\left(d_2 = d_1 - \sigma\sqrt{5}\right) \quad (4)$$

+4 solve for σ that makes these hold (4)

$$+2\left(\Delta = N(d_1)\right) \quad (2)$$

$$+2\left(\beta_U = \frac{1.1}{\Delta\left(1 + \frac{100}{400}\right)}\right) \quad (10)$$

$$+2\left(\beta_\Delta = (1-\Delta)\frac{500}{100}\beta_U\right) \quad (6)$$

$\Rightarrow N(\,)$ $\Rightarrow$ look up on table or in Excel