Quiz B for 2:30 Class: 11/19/12

Use the following information to set up the calculations needed to determine the beta of Netflix’s assets and Netflix’s bonds.

Information on Netflix’s assets: market value = $6 billion, book value = $1.9 billion, standard deviation of returns = 40%, average life = 20 years

Information on Netflix’s bonds: market value = $1 billion, book value = $0.9 billion, standard deviation of returns = 10%, maturity = 5 years, maturity value of debt = $1.2 billion

Information on Netflix’s stock: market value = $5 billion, book value = $1 billion, standard deviation of returns = 45%, beta = 0.7

Returns on Treasuries by maturity: 1-year = 0.2%; 5-year = 0.7%; 10-year = 1.6%; 12-year = 1.7%; 20-year = 2.2%; 30-year = 2.7%

$$\beta_U = \frac{0.7}{\sigma (1 + \frac{3}{5})} \quad (19)$$

$$\delta = \ln(1.11) \Rightarrow \text{Look up on tables or in Excel} \quad (5)$$

$$d_1 = \frac{0.6}{1.24} \quad \frac{1.5}{2} \quad (19)$$

$$p(U0) = \frac{1.2}{(1.007)^5} \quad (18)$$

$$\beta_d = (1.13) \frac{6}{1.3} \beta_U \quad (14)$$