

Assume that NextFlix has assets with a market value of \$100 million and equity with a market value of \$80 million. Its debt matures for \$35 million seven 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 1.4. 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.

+4  
Solve for  $\sigma$  that makes these hold  
(4)

$$80 = 100(N(d_1) - PVCF)N(d_2) \quad (6)$$

$$d_1 = \frac{\ln\left(\frac{100}{PVCF}\right) + \frac{\sigma\sqrt{7}}{2}}{\sigma\sqrt{7}} \quad (6)$$

$$PVCF = \frac{35}{(1.011)^7} \quad (12)$$

$$d_2 = d_1 - \sigma\sqrt{7} \quad (4)$$

$$N(d_1) = N(d_1) \quad (2)$$

$$\beta_D = \frac{1.4}{D\left(1 + \frac{20}{80}\right)} \quad (10)$$

$$\beta_S = (1 - \delta) \frac{100}{20} \beta_D \quad (6)$$

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