Quiz A: 7/~~24~~/14 ⁳30   Name __Key__

Assume the corporate tax rate is 40%, the individual tax rate on equity income is 10%, and the individual tax rate on interest income is 30%. Assume also that there is a 25% chance that Wind Inc. will realize Earnings Before Interest and Taxes (EBIT) of $1 million, a 35% chance that Wind will realize an EBIT of $4 million, a 30% chance that Wind will realize an EBIT of $7 million, and a 10% chance that Wind will realize an EBIT of $10 million.

a. What is the optimal level of interest for Wind? Note: Calculations required. Show your work if you want to receive any partial credit.

b. Which of the issues we discussed in chapter 16 might cause Wind to optimally have less debt that you answered in part a? Note: a list of the issues without any discussion is fine.

a. T^*

$$\underset{+5\left(\right.}{\overset{1-4}{}}\ T^* = 1 - \frac{(1-(.75)(.4))(1-.1)}{(1-.3)} = .1 \quad ⓩ$$

$$\underset{+5\,(}{\overset{4-7}{}}\ T^* = 1 - \frac{(1-(.4)(.4))(1-.1)}{(1-.3)} = -0.08 \quad ⓩ$$

$$\Rightarrow \text{optimal} = 4 \quad +11$$

b. Bankruptcy + financial distress costs +5   −3 for each
   Stock holder − Bondholder conflict +5   incorrect