Scale

34 = 75
33 = 74
28 = 69
27 = 68
26 = 67
24 = 64
23 = 63
20 = 60
16 = 57
13 = 54
1 = 20

Quiz B for 9:45 Class: 7/25/12 Name Key

Assume that New Aquatics Inc's EBIT has a 10% chance of equaling $3,000,000, a 50% chance of equaling $7,000,000, and a 40% chance of equaling $9,000,000. Assume also that New Aquatic's tax rate equals 35%, that the tax rate on equity income equals 25%, and that the tax rate on interest income equals 40%.

a. Considering only tax issues, determine the optimal level of interest expense for New Aquatics? (Note: Calculations required).

b. Assume New Aquatics issues debt beyond the level of debt you identified as optimal in part "a". Assume also that New Aquatic's stock price fell when the firm issued the additional debt. Ignoring tax issues, how would you explain this reaction?

32 a.

3 – 7

$E(\tau_c) = .9(.35) = .315$

$\tau^* = 1 - \frac{(1-.315)(1-.25)}{1-.4} = +0.14375$ 14

7 – 9

$E(\tau_c) = .4(.35) = 0.14$

$\tau^* = 1 - \frac{(1-.105)(1-.25)}{1-.4} = -0.075$ 14

=> optimal = ~~9~~ 7 million

16 b. 1) The drop in stock price may stem from the debt increasing the probability of bankruptcy and financial distress.

=> rising expected bankruptcy and distress costs reduce the value of the firm

2) It could be that the debt is too expensive to issue because of the potential for stockholder-bondholder conflict.

=> the cost comes from more restrictive covenants and higher interest rates on the bonds