

Quiz A for 1:00 Class: 3/6/13

Name Key

Assume the corporate tax rate equals 40%, that the personal tax rate on equity income equals 20%, and that the personal tax rate on interest income equals 35%. Assume also that TaxFlow Inc. has a 10% chance of earning \$1 million per year, a 30% chance of earning \$5 million per year, a 25% chance of earning \$15 million per year, and a 35% chance of earning \$20 million per year. What is TaxFlow's optimal level of interest payments?

Note: You will need to perform calculations to justify your answer. Show your work in case you need partial credit.

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

$$\begin{aligned}
 & \frac{5-15}{1} \quad \text{+1} \\
 & \tau^* = 1 - \frac{(1 - (.6)(.4)) (1 - .2)}{(1 - .35)} = +0.06462 \quad \text{+8} \quad \text{+4} \quad \text{+4} \quad \text{25} \\
 & \frac{15-20}{1} \quad \text{+1} \\
 & \tau^* = 1 - \frac{(1 - (.35)(.4)) (1 - .2)}{(1 - .35)} = -0.05846 \quad \text{+4} \quad \text{+4} \quad \text{+4} \quad \text{21}
 \end{aligned}$$

⇒ optimal = ~~20~~ 15 + 4

Note:

0-1 :  $\tau^* = +.2615$

1-5 :  $\tau^* = +.2123$

20+ :  $\tau^* = -.2308$