Quiz A for 2:30 Class: 10/23/13

Name ____________________

Short Answer 1 (15 points): Gamma Air’s stock has a market value of $200 million and its debt has a market value of $100 million. You currently own $195,000 of Gamma Air stock and $105,000 of Gamma Air bonds. What transactions would be required for you to have an unlevered position in Gamma Air?

Buy $500,000 of Gamma stock + sell $500,000 of Gamma bonds

Short Answer 2 (15 points): Briefly explain how debt helps resolve stockholder-manager conflict after it is issued.

1) Cash used for debt service so managers work harder
2) Creditors help monitor management
3) Threat of bankruptcy motivates management to work harder

Problem (75 points): Space Balloon Inc. has a 10% chance of earning $8 million, a 30% chance of earning $17 million, a 40% chance of earning $23 million, and a 20% chance of earning $36 million. If the corporate tax rate equals 35%, the personal tax rate on equity income equals 15%, and the personal tax rate on ordinary income equals 40%, what is the optimal level of interest expense for Space Balloon?

Note: Calculations required. You will only receive partial credit if you show your work.

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

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\begin{align*}
\text{8-17:} & \quad 1 - (1 - 0.4 \times 0.35) (1 - 0.15) = 0.02958 \\
\text{17-23:} & \quad 1 - (1 - 0.6 \times 0.35) (1 - 0.15) = -0.1192 \\
\text{17:} & \quad \text{optimal } = 16
\end{align*}
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Note: 0-8: \( T^* = +0.02917 \)

23-36: \( T^* = -0.3175 \)

36+: \( T^* = -0.4167 \)