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.

\[
\begin{align*}
\mathbb{E}^{*} &= 1 - \frac{(1 - (0.6)(0.4))(1 - 0.2)}{(1 - 0.35)} = 0.06462 \\
\mathbb{E}^{*} &= 1 - \frac{(1 - (0.35)(0.4))(1 - 0.2)}{(1 - 0.35)} = -0.05846
\end{align*}
\]

\[
\Rightarrow \text{optimal} = \text{max} \{15 + y\}
\]

Note:
- \(0 - 1: \mathbb{E}^{*} = 0.7615\)
- \(1 - 5: \mathbb{E}^{*} = 0.2123\)
- \(20 +: \mathbb{E}^{*} = -0.2308\)