

Practice Problems

The Do-All-Right Marketing Research firm has promised payments to its bondholders that total \$100. The company believes that there is a 85% chance that the cash flow will be sufficient to meet these claims. However, there is a 15% chance that cash flows will fall short, in which case total earnings are expected to be \$65. If the bonds sell in the market for \$84, what is an estimate of the bankruptcy costs for Do-All-Right? Assume a cost of debt of 10%.

Answer:

The expected amount bondholders receive if cash flows fall short under bankruptcy is:

$$\$84 = [(\$100 * .85) + (X * .15)] / 1.10; X = \$49.34$$

$$\text{Without bankruptcy costs, the bonds would sell for: } [(\$100 * .85) + (\$65 * .15)] / 1.10 = \$86.14$$

Therefore, estimated bankruptcy costs must be $\$65.00 - \$49.34 = \$15.66$, and the impact on bond price is $(.15 * \$15.66) / 1.10 = \2.14

Wigdor Manufacturing is currently all equity financed, has an EBIT of \$2 million, and is in the 34% tax bracket. Louis, the company's founder, is the lone shareholder.

a. If the firm were to convert \$4 million of equity into debt at a cost of 10%, what would be the total cash flow to Louis if he holds all the debt? Compare this to Louis' total cash flow if the firm remains unlevered.

Answer:

	Unlevered	Levered
EBIT	\$2,000,000	\$2,000,000
Interest	-0-	\$400,000
EBT	\$2,000,000	\$1,600,000
Corporate Taxes	\$680,000	\$544,000
Net Income	\$1,320,000	\$1,056,000
Add back interest	-0-	\$400,000
Total Cash Flow	\$1,320,000	\$1,456,000

b. Assume that all earnings are paid out as dividends. Now consider the fact that Louis must pay personal tax on the firm's cash flow. Louis pays taxes on interest at a rate of 33%, but pays taxes on dividends at a rate of 28%. Calculate the total cash flow to Louis after he pays personal taxes.

Answer:

	Unlevered	Levered
Dividends	\$1,320,000	\$1,056,000
Personal Taxes on Dividends	\$369,600	\$295,680
Cash Flow From Dividends	\$950,400	\$760,320
Interest	-0-	\$400,000
Personal Taxes on Interest Income	-0-	\$132,000
Cash Flow From Interest	-0-	\$268,000
Total Cash Flow	\$950,400	\$1,028,320
Debt financig still is preferred.		