* RWJL, Cap. 17, Ex. 9

Miller 1977 $\quad V_L = V_U + B \left[\dfrac{1 - (1-t_c)(1-t_s)}{(1-t_B)} \right]$

Exercício: $V_A = V_N + \left[1 - \dfrac{(1-t_c)}{(1-t_B)} \right] \cdot B - C(B)$

A fórmula de exercício pressupõe $t_s = 0$ e adiciona os custos de dificuldades financeiras, $C(B)$.

a) MM sem impostos: t_c, t_s, t_B e $C(B)$ são iguais a zero.

"Under these assumptions, $V_L = V_U$, signifying that the capital structure of a firm has no effect on its value. There is no optimal debt equity ratio."

b) MM com impostos na pessoa jurídica: $t_c > 0$ e t_B, t_s e $C(B)$ iguais a zero.

"Under these assumptions, $V_L = V_U + B \cdot t_c$, implying that raising the amount of debt in a ~~firms~~ firm's capital structure will increase the overall value of the firm. This model implies that the debt-equity ratio of every firm should be infinite."

c) $t_c = 34\%$, $t_B = 20\%$, $C(B) = 0$

$$V_A = V_N + B\left[1 - \frac{(1-t_c)(1-t_s)}{(1-t_B)}\right] - C(B)$$

$$V_A = V_N + 1000\,000\left[1 - \frac{(1-0,34)}{(1-0,x)}\right]$$

$$V_A = V_N + 175\,000$$

↳ variação no valor

d) "The change in the value of an all-equity firm that issue \$1 of perpetual debt instead of \$1 of perpetual equity is:

$$\text{change in value} = \left\{1 - \left[\frac{(1-t_c)(1-t_s)}{(1-t_B)}\right]\right\} \times \$1$$

"If the firm is not able to benefit from interest deductions, the firm's taxable income will remain the same regardless of the amount of debt in its capital structure, and no tax shield will be created by issuing debt. Therefore, the firm will receive no tax benefit as a result of issuing debt in place of equity. In other words, the effective corporate tax rate when we consider the change in the value of the firm is zero. Debt will have no effect on the value of the firm since interest payments will not be tax deductible. Since this firm is

* unable to deduct interest payments, ✓
the change in value is:

$$\text{change in value} = \left[1 - \frac{(1-0,0)}{(1-0,2)} \right] \times \$1$$

$$= -\$0,25$$

The value of the firm, (considerando o impacto fiscal na pessoa física), will decrease by $0,25 if it adds $1 of perpetual debt rather than $1 of equity.

Comentário:

Para aplicar a casos práticos é preciso incorporar particularidades da legislação, como o limite de 30% do lucro para aproveitamento de créditos fiscais no Brasil, e particularidades das diferentes alíquotas nas pessoas jurídica e físicas.
É preciso criar situações, projetar lucros/fluxos e projetar quando os benefícios fiscais serão efetivamente aproveitados.