

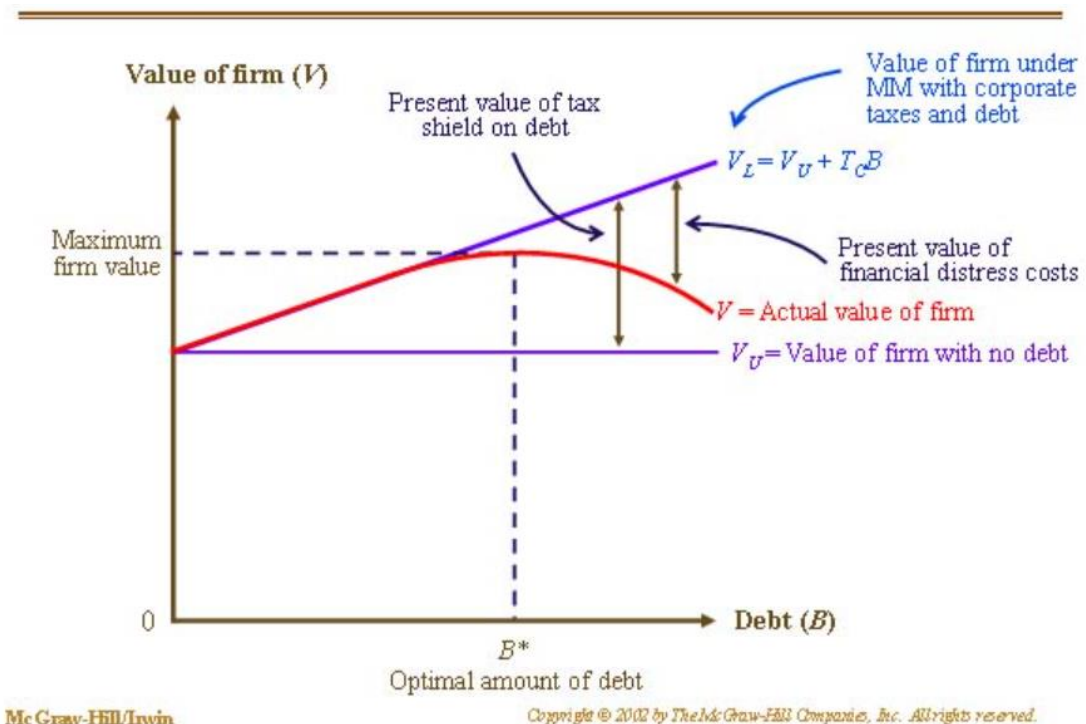
Integration of Tax Effects and Financial Distress Costs

(Static Tradeoff Theory)

Figure 17.1 shows firm value under MM with taxes. In addition, this figure shows the value of the firm under MM with taxes and financial distress or bankruptcy costs. Once these costs are considered, firm value is maximized at a debt level less than 100% debt. The optimal capital structure is the point where the present value of all future expected interest tax shields is equal to the present value of all future expected bankruptcy costs. As debt level increases, bankruptcy costs increase, due to the increased probability of financial distress. In Figure 17.1, B^* is the debt level that maximizes firm value. Notice with debt financing, the firm gets the interest tax shield but must bear bankruptcy risk. Please reference Lecture Slides 19 - 26 for further information on the Pie Model and related numerical illustrations!

Since the costs of debt financing can take other forms such as agency costs as summarized in Lecture Slide 6, and the joint tax benefit of debt financing, G_L introduced in Lecture Slide 38, can be different from $T_C \cdot B$ that only considers corporate taxation, the graphical analysis of optimal capital structure could be generalized for capturing various forms of costs and benefits of debt financing.

Integration of Tax Effects and Financial Distress Costs



This approach to explaining the capital structures seen in real firms is called the "**static tradeoff theory.**"