END OF CHAPTER EXERCISES

Chapter 11 : Valuing Firms : Capital Structure And The Cost Of Capital

Investments : Spot and Derivatives Markets

(Keith Cuthbertson, Dirk Nitzsche)

1. Broadly speaking what determines the "value of a firm" ?

2. Under what conditions does the WACC fall continuously as the debt-equity ratio (i.e. leverage) increases?

3. Why can we consider the value of the firm to be equal to (i) the PV of future earnings and (ii) the market value of equity S plus the value of debt B ? Isn't this contradictory ?

4. Two firms have identical possible earnings flows Y in the future. Firm-A is all-equity financed while firm-B is financed with 90% debt and 10% equity. Why would the equityholders of firm-B demand a higher expected (required) return than the equityholders of a firm-A?

5. Why do the "traditionalists" believe that there is a debt-equity ratio that will maximize the value of the firm ?

6. Show that

   [1] $R_w = (1-z)\, R_s + zR_b$

   where $z = B/(B+S)$ can be re-arranged to give:

   [2] $R_s = R_w + (R_w - R_b)\,(B/S)$

   Hence, demonstrate under what conditions the cost of equity capital rises with the debt-equity ratio.

7. In a Modigliani-Miller world without corporate taxes, the value of the firm is independent of the debt equity ratio but if we include corporate taxes in the model then the value of the firm is maximised with 100% debt. Intuitively, what is the cause of this dramatic change in outcomes?