FINA 0025 –Financial Management
Tutorial 10 Solutions

Note that detailed answers to tutorial questions will only be provided in tutorials. The following abridged answers are intended as a guide to these detailed answers. This policy is in place to ensure that you attend your tutorial regularly and receive timely feedback from your tutor. If you are unsure of your answers you should check with your tutor, a pit stop tutor or the lecturer.

A. Short Answer Questions

A1.

a) False. While debt is cheaper than equity this only refers to the explicit cost of debt. There are implicit costs as well.

b) False. Proposition 1 states that the value of a firm is independent of its capital structure while proposition 2 shows that there is a positive relationship between a firm's debt-to-equity ratio and the expected rate of return on its equity.

c) False. When a firm is liquidated its equity is generally worthless so the liquidation costs incurred will be borne by debtholders. However, debtholders realize this and will require compensation, in the form of a higher interest rate, for these expected costs.

d) False. The first sentence is basically true, but the second sentence does not follow from the first.

B. Problems

B1. Sell firm B's shares for $10,000. The debt-to-equity ratio of firm B is 59.26%. So, the investor should borrow $5,926 at 8% p.a. and buy $15,926 of firm A's shares. The increase in net income is $156.

B2. The logical starting point for this analysis is to compute the total value of the company from its net operating income stream.

(i) Market value of firm, *V*L(Old) = EBI/*k*0 = $25,000,000.

(ii) Market value of equity, *E*L(Old) = $20,000,000.

(iii) Interest payable = $200,000.

(iv) Earnings available to shareholders = $1,800,000.

(v) Market value of firm, *V*L(New) = $25,000,000.

(vi) Market value of equity, *E*L(New) = $15,000,000.

(vii) Interest payable = $400,000.

(viii) Earnings available to shareholders = $1,600,000.

b) The costs of equity are 9% and 10.67%, respectively.

c) Under these assumptions there is no optimal capital structure.

B3. *V*U = $2,800,000.
*V*L = $3,250,000.

B4.

a) k_0 = 22.0%.

b) *k*e = 28.0%.

c) βe = 2.0. The beta of equity when the D/E ratio is 50% is: βe = 2.4.