Week 1: Firm versus Equity Value

You have been asked to value a firm with expected annual after-tax cash flows, before debt payments, of $100 million a year in perpetuity. The firm has a cost of equity of 12.5%, a market value of equity of $ 600 million and a market value of debt of $ 400 million. If the debt is perpetual and the after-tax interest rate on debt is 6.25%,

a. Estimate the value of the firm and the value of the equity based upon this value.

b. Estimate the value of equity, by discounting the cashflows to equity at the cost of equity.

c. Now assume that you had been told that the market value of equity was $ 800 million and the market value of debt was $ 400 million and that all of the other information remained unchanged. Answer parts a and b, using these new values.

d. Assuming that you get different values for equity in part c using the two approaches, what would you need to do to reconcile the two valuations.

e. As a final question, assume that you have a perpetual growth rate of 3% in the after-tax cashflows. What additional assumption or assumptions would you need to ensure that you get the same value for equity using the two approaches?