Solutions to Self-Study Quiz 1

Equity Valuation - Finance 70610

1. You are valuing the equity of a pharmaceutical company. You expect cash flows to equity to grow at an annual rate of 20% the next 4 years and at a stable rate of 4% in perpetuity thereafter. The cash flow next period is expected to be $75 million (which includes the 20% growth), the cost of equity is 14.9%, and the weighted average cost of capital is 10%. What is the value of equity in this firm?

Note that we are dealing with cash flows to equity holders, so we will discount the cash flows at the cost of equity, or 14.9%. Since we are forecasting four years of high growth, we need estimates of cash flows for the first five years.

Cash Flows:

Period 1: 75
Period 2: 75(1.20)=90
Period 3: 90(1.20)=108
Period 4: 108(1.20)=129.6
Period 5: 129.6(1.04)=134.78

Terminal Value: $$TV_{Yr4} = \frac{134.784}{.149 - .04} = \$1236.55$$

PV of Terminal Value: $$PV_{TV} = \frac{1236.55}{(1.149)^4} = \$709.466$$

PV of High Growth: $$PV_{HighGrowth} = 75\left(\frac{1 - \frac{(1.20)^4}{(1.149)^4}}{.149 - .20}\right) = \$279$$

Total Equity Value: $$TotalEquityValue = 709.466 + 279 = \$988.466 mil$$