Session 20: Post class test solutions

1. **d. Use a normal risk-adjusted discount rate to arrive at a value and then adjust that value for the probability of failure.** While it seems logical to push up the discount rate to reflect the risk of failure, it is not easy to make this adjustment for a discrete risk (like failure).
2. **e. $10.80/share.** To get the value, you first compute the portion of the offering proceeds that will stay with the firm after the offering. In this case, half of the offering proceeds of $160 million will be retained by the firm and this is added to the DCF value of $ 1 billion, before dividing by the total number of shares outstanding.
   Value of the firm post-issue = 1000 + 80 = 1080
   Value per share =1080/100 = 10.80
3. **c &d**: The investment bankers face significant costs if they over price but relatively small costs if they under price (their fees will be a little lower, but not by much). The owners of the IPO firm do not mind leaving money on the table, because they are issuing only a few shares and hope that the positive PR from the under pricing will help them on subsequent issues.
4. **a. <15%.** While you may bid for shares in every IPO, you will get all the shares you asked for only in the over priced IPOs and less shares than desired in the under priced IPOs. Your overall portfolio will therefore be overweighted with bad IPOs and earn less than a hypothetical portfolio of all IPOs.
5. **c. 1.50.** The first step is to compute the market beta for the company, based upon the total beta and the correlation of companies in the business software business with the market:
   Market beta = Total beta * Square root of R^2 = 3.00*.4 = 1.20
   Then compute the new beta based upon the VC portfolio's correlation with the market:
   Correlation of VC portfolio with market = Square root of 0.64 = 0.80
   VC beta = Market beta/ Correlation of VC portfolio with market
   = 1.20/ 0.80 = 1.50