Session 11: Post Class tests

1. Carozza Inc. is a publicly traded Chilean company. The beta for the company is 1.20, the risk free rate in US dollars is 3% and the equity risk premium for the company is 6%. If the inflation rate in Chile is 4% and the inflation rate in US dollars is 2%, estimate the cost of equity for Carozza in Chilean Pesos.
   a. 8.2%
   b. 9%
   c. 10.2%
   d. 11.2%
   e. 12.2%

2. Santos Bank is a Spanish bank that derives all of its revenues from commercial banking. The average beta for European banks is 1.20. The German 10-year Euro bond rate is 2% and the Spanish 10-year Euro bond rate is 5%. If the equity risk premium for mature markets is 5% and Spanish equities are 1.5 times more risky than the Spanish Government bond, estimate the cost of equity in Euros for Santos Bank.
   a. 8%
   b. 11%
   c. 13.4%
   d. 14%
   e. 16.4%

3. DelMara Deli is a small, privately owned restaurant chain, where the owner has all of her wealth invested in the business. The unlevered beta for publicly traded restaurant chains is 0.90 and average R-squared of the market regressions for these companies is 25%. If DelMara has no debt, what is the cost of equity for DelMara's owner? (The risk free rate is 3% and the equity risk premium is 6%)
   a. 8.4%
   b. 13.8%
   c. 24.6%
   d. 18.0%
   e. None of the above

4. Some analysts use a beta estimated from accounting earnings, i.e., an accounting beta, to estimate a cost of equity for a private business. Which of the following is a problem with this approach?
   a. Accounting earnings gets estimated infrequently (once a quarter or year)
   b. Accounting earnings are often smoothed out
   c. Accounting earnings can be negative
   d. You are assuming that the private business owner is diversified
   e. All of the above

5. Inverness Inc. is a small, privately owned golf-equipment business. The owner is considering selling the company and is looking at potential buyers. Holding all else constant, which of the following is likely to pay the highest price and why?
   a. A private buyer (individual) who wants to run his own business
   b. A publicly traded sporting equipment company
   c. A venture capitalist
Session 11: Post class test solutions

1. a. **12.2%**
   
   Expected Return in US $ = 3\% + 1.20 (6\%) = 10.2\%
   
   Expected Return in Chilean Peso = 10.2\% + (4\%-2\%) = 12.2\%

2. c. **13.4%**
   
   Risk free rate = 2\% (German 10-year Euro bond rate)
   
   ERP = 5\% + (5\% - 2\%) (1.5) = 9.5\%
   
   Cost of equity = 2\% + 1.2 (9.5\%) = 13.4\%

3. b. **13.8\%**: First, since the owner is undiversified, you compute the total beta

   - Correlation with the market = Square root of $R^2 = 0.50$
   - Total unlevered beta = 0.90/Correlation with the market = .90/.50 = 1.80
   - Levered beta = 1.80 (since the firm has no debt)
   - Cost of equity = 3\% + 1.80 (6\%) = 13.8\%

4. e. **All of the above.** Accounting earnings are estimated far too infrequently (thus leading to fewer observations in a regression), are smoothed out, can be negative (making percentage changes impossible to compute) and measure only market risk.

5. b. **A publicly traded sporting equipment company.** The investors in this company are likely to be diversified, allowing them to look at only market risk (and use market beta) in estimating cost of equity. In addition, they are far more likely to find synergies (and perhaps pay for them).