Session 7: Post Class tests

1. The implied equity risk premium is a forward-looking premium, estimated from the level of stock prices (the index) today and expected earnings/cash flows in the future. Assume that you compute the implied ERP at the start of a year and the market goes up 20% during the course of the year and that you compute the implied ERP again at the end of the year. Assuming that the risk free rate and growth rate do not change over the course of the year, which of the following would you expect to happen to the implied ERP?
   a. The ERP will go down
   b. The ERP will go down, if the earnings/cash flows went up by less than 20% during the year
   c. The ERP will go down, if the earnings/cash flows went up by more than 20% during the year
   d. The ERP will not change
   e. The ERP will go up

2. To compute the implied ERP, one input that you need is the expected growth rate in earnings/cash flows in future years. That input can be estimated by looking at analyst estimates of growth in earnings for individual companies, but there are studies that indicate that these estimates are biased upwards. Assuming that these growth rates are biased upwards, what effect will it have on your computed ERP?
   a. You will over estimate the implied ERP
   b. You will under estimate the implied ERP
   c. You could under or over estimate the implied ERP

3. When a company is geographically diversified, it should be able to diversify away country risk. There is therefore no need to adjust equity risk premiums for country risk.
   a. True
   b. False

4. You are trying to estimate the equity risk premium to use for Vortex, a US company that derives 80% of its revenues in Brazil and 20% in the United States. You have estimated an implied equity risk premium of 5% for the United States but don’t have the inputs to estimate the implied equity risk premium for Brazil. The sovereign CDS spread for Brazil is 2% and you estimate that equities in Brazil are 1.25 times more volatile than the Brazilian government bond. What is the equity risk premium that you will use for Vortex,
   a. 5%
   b. 5.5%
   c. 6.25%
   d. 7.0%
   e. 7.5%

5. Patiala Cement is an Indian cement company that derives 80% of its revenues in India and 20% in Nigeria; the ERP for India is 8% and the ERP for Nigeria is 10%. Over the next decade, the company expects its revenues in India to increase by
50% and revenues in Nigeria to quadruple. Estimate the equity risk premium for Patiala Cements are the end of the decade.

a. 8.00%
b. 8.4%
c. 8.8%
d. 9.00%
e. 10.00%
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1. **b. The ERP will go down, if the earnings/ cash flows went up by less than 20% during the year.** If the growth rate and risk free rate don’t change, the effect will depend upon how much stocks go up, relative to earnings/cashflows. If the stock market goes up by more than earnings go up, the ERP will go down.

2. **a. You will over estimate the implied ERP.** When you use an upwardly biased expected growth in earnings, you will get a higher IRR (expected return on stocks) for investing in stocks. That, in turn, will lead to too high an estimate for the ERP.

3. **False.** You can diversify away country risk only if country risk is not correlated. If there is correlation across countries, you can be geographically diversified and still be exposed to country risk.

4. **d. 7.0%.** First, estimate the equity risk premium for Brazil
   Brazil ERP = 5% + 1.25 (2%) = 7.5%
   Next, estimate the ERP for Vortex based on revenue breakdown:
   ERP for Vortex = .8 (7.5%) + .2 (5%) = 7.0%

5. **c. 8.8%.**
   Revenues today = 80 in India, 20 in Nigeria
   After expansion = 120 in India, 80 in Nigeria (60%, 40%)
   ERP after expansion = .6 (8%) + .4 (10%) = 8.8%