Session 16: Post Class tests

1. Assume that you have analyzed a project in Indian Rupees (expected inflation rate is 5%) and arrived at a net present value of Rs 1 billion. If you do your analysis entirely in US dollars (expected inflation rate is 2%) which of the following would you expect to happen to the numbers in your analysis?
   a. Your growth rate will be lower and your cost of capital will be higher
   b. Your growth rate will be higher and your cost of capital will be lower
   c. Your growth rate will be higher and your cost of capital will be higher
   d. Your growth rate will be lower and your cost of capital will be lower
   e. Your growth rate and cost of capital will be unchanged.

2. The NPV of an investment is the PV of the cash flows over the life of the investment. Lengthening the life of a project, holding the discount rate constant, will therefore always increase the NPV.
   a. True
   b. False

3. You have computed the NPV of a project to be $25 million, using expected cash flows and a risk-adjusted discount rate. You are, however, concerned that you may have made errors on estimating the cash flows and the discount rate. Which of the following make you feel more comfortable with taking the project, given this fear?
   a. The project has a long payback period
   b. In your best case scenario, the project has a NPV of $80 million
   c. The standard deviation in the NPV, when you do a Monte Carlo simulation yields a high value
   d. In your worst case scenario, the project has a NPV of $2 million
   e. The project NPV is very sensitive to changes in your discount rate

4. Most analysts follow up a project analysis by asking what-if questions, where they assess the impact of changing assumptions and examining the effect on the bottom line (NPV, IRR etc). If you decide to do this, how should you approach the sensitivity analysis and how would you use it?
   a. Ask what-if questions about every input into the analysis and reject the project, if any of the scenarios yields a bad outcome (negative NPV).
   b. Ask what-if questions about key inputs into the analysis and reject the project, if any of the scenarios yields a bad outcome (negative NPV).
   c. Ask what-if questions about every input into the analysis and use it to generate a range of values for the decision variable (NPV)
   d. Ask what-if questions about key inputs into the analysis and use it to generate a range of values for the decision variable (NPV)
   e. Ask what-if questions about key inputs into the analysis and use it to determine how to manage a project better or increase its value.

5. In a Monte Carlo simulation, rather than enter expected values for each input, you enter distributions, with parameters, for each input. Which of the following is a benefit of Monte Carlo simulations?
   a. It forces you to think about your inputs (and what may cause them to change) more seriously.
b. It allows you to allow for co-movements in your inputs (such as assuming that your revenue growth will be high when margins are high).

c. It yields a distribution for your output variable (like NPV) rather than a single number.

d. It enables you to see the range of outcomes on a project (best case, worst case etc.).

e. All of the above.
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1. **d. Your growth rate will be lower and your cost of capital will be lower.**
   Both numbers will be lower by roughly 3% (the differential inflation rate).

2. **False.** As you lengthen a project’s life, you have to increase capital maintenance in the earlier years. This will result in lower cash flows, which can more than offset any benefit from a longer life (and a higher terminal value), at least for some projects.

3. **d. In your worst-case scenario, the project has a NPV of $2 million.** The fact that your NPV is positive even in your worst-case scenario should comfort you, because even in its worst form, this project still creates value (just not as much as you thought it would). All of the other choices will make you even more uncomfortable about uncertainty.

4. **e. Ask what-if questions about key inputs into the analysis and use it to determine how to manage a project better or increase its value.** It is better to focus on a few key inputs and rather than reject a project just because a few scenarios yield bad results, you should use the analysis to help you determine that variables that you will track on this project, assuming that it passes muster.

5. **e. All of the above**