END OF CHAPTER EXERCISES

Chapter 3 : Investments Appraisal

Investments : Spot and Derivatives Markets

(Keith Cuthbertson, Dirk Nitzsche)

1. What is the relationship between ‘compounding’ and ‘discounting’ ?

2. Intuitively, why should you invest in a project if its NPV is positive?

3. What is the internal rate of return IRR of an investment project ? Can you discover what assumptions IRR makes about the reinvestment of cash flows? (Hint: use a two period investment project).

4. What are the ‘payback period’ and the discounted ‘payback period’? Why are they a poor guide to investment decisions ?

5. You have won the National Lottery. Lottery officials now offer you the choice of the following alternative payouts :

   Alternative 1 : £ 160,000 1 year from now
   Alternative 2 : £ 200,000 5 years from now

   Which should you choose if the discount rate is :
   (a.) 0 %
   (b.) 5 %
   (c.) 10 %

6. (a.) Suppose you are considering an investment in which you pay £ 5000 one year from today and receive an annual income of £ 1500, £ 2000 and £ 2500 in the three years that follow. Assume that the discount rate is 10% p.a.. What is the Net Present Value (NPV) ?
   (b.) Assume now that the first payment of £ 5000 is due today and you will receive £ 1500 in 1 years time, £ 2000 in 2 years time and £ 2500 in 3 years time. The discount rate is still 10%, how would this change your answer ?

7. An investment project earns £110 at the end of the first year and £121 at the end of the second year. The capital cost (today) is £200. What is the internal rate of return (IRR) of the project ?
   If the cost of capital (i.e. cost of borrowing) is 12% should you invest in the project ? Briefly explain the intuition behind your answer