End-of-chapter Questions

Chapter 20: Cost-Benefit Analysis

1. What is the present value of $20 received two years from now, using a discount rate of 5%?
2. a. Why must the future costs and revenues of a private investment project be discounted to present value?
   b. What does the discount rate represent in the present value calculation of a private investment project?
3. What is the present value formula and how is it used to determine if an investment is worthwhile?
4. a. How is the internal yield (rate of return) on an investment calculated?
   b. How does the internal yield calculation take into account the timing of the future net returns of a project?
5. a. What issues tend to be present in both private investment analysis and public sector cost–benefit analysis?
   b. What additional issues are present in public sector cost–benefit analysis that tend not to apply to private investment analysis?
6. Why can there not be *a* theoretically correct cost–benefit analysis of any one government project?
7. What is an intangible? Is the projected loss of life in constructing government projects an intangible? Explain.
8. What are the arguments for and against including the distribution of a project's benefits and costs in a cost–benefit analysis?
9. a. Give some examples of techniques that economists use to measure non-marketed benefits and costs.
   b. Give examples of non-marketed benefits and costs that would be measured or estimated by each technique you mention.
10. a. What are the two main views on what the public or social rate of discount should be?

   b. How is the public or social rate of discount measured with actual data under each point of view?

11. Why is the marginal rate of substitution between the future and the present used in computing the public or social rate of discount likely to differ from the consumers' marginal rate of substitution between future and present consumption?
12. Are economists in agreement as to what the public or social rate of discount should be for cost–benefit analyses?
13. What factors might make market prices not so useful for measuring the benefits and/or costs of some government projects?
14. The wages earned by the construction workers who build public projects and the workers who operate the projects after they are built are often represented as a benefit of the projects in cost–benefit analyses. Are they likely to be true benefits of the projects? Explain.